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MANUFACTURING
METHODS &
TECHNOLOGY

PROJECT EXECUTION
REPORT

SECOND CY 81

PREPARED BY

MARCH 1982

USA INDUSTRIAL BASE ENGINEERING ACTIVITY

MANUFACTURING TECHNOLOGY DIVISION

ROCK ISLAND, ILLINOIS 61299

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DEPARTMENT OF THE ARMY
US ARMY INDUSTRIAL BASE ENGINEERING ACTIVITY
ROCK ISLAND, ILLINOIS 61299

REPLY TO
ATTENTION OF:

DRXIB-MT

15 MAR 1982

SUBJECT: Manufacturing Methods and Technology (MMT) Program Project
Execution Report, First Half CY81

SEE DISTRIBUTION

1. Reference AR 700-90, C1, paragraph 3-8e(1), 10 Mar 77, subject: Logistics, Army Industrial Preparedness Program.
2. The Project Execution Report is a summary compilation of the MMT Program Project Status Reports (RCS DRCMT-301) submitted to IBEA from DARCOM major Army subcommands (SUBMACOM) and project managers. This document is used as a management tool for monitoring the progress of MMT projects. There are separate sections in the report showing projects that are new, active, and completed. Also, included is a discussion of the overall DARCOM Program.
3. Persons who are interested in the details of an individual project should contact the manufacturing technology representative at the SUBMACOM. A list of those representatives is included in Appendix IV to this report. The Project Officer for this task is P. Swim, AUTOVON 793-6521.

A handwritten signature in cursive script, reading "J. R. Gallagher", is positioned above the printed name.

J. R. GALLAUGHER
Director
Industrial Base Engineering Activity

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DISCUSSION

BACKGROUND

The Army Manufacturing Methods and Technology (MMT) Program was established in 1964 as a part of the Army Production Base Support (PBS) Program. The MMT Program has goals of improving existing manufacturing technology, translating new technology into production line processes, and supporting the modernization and expansion of the military hardware production base. The program is governed by the provisions of AR 700-90, Chapter 3.

COMPOSITION OF THE REPORT

This MMT Project Execution Report provides the status summaries of 504 active projects which have a total authorized cost of \$238,892,800. Total MMT program statistics, as well as the summaries of the active projects are also included. The report is compiled, edited, and published for HQ, DARCOM by the Manufacturing Technology Division of the Army Industrial Base Engineering Activity (IBEA) in accordance with AR 700-90, C1, paragraph 3-8e(1).

Distribution of this report is extended to Army materiel developers and users and to counterparts in the Navy and Air Force. Inquiries on the detailed technical aspects of any individual project may be answered by the MMT Program representative of the action command under which the project was completed or is being executed. Inquiries or suggestions concerning this report or other facets of the MMT Program may also be directed to the Manufacturing Technology Division of IBEA.

The report is composed of three major sections:

- a. Projects Added 2nd Half, CY81 - A list divided by organization of all projects funded during the second half of CY81. Included is a narrative of the problem for each project.
- b. Final Status Reports Received During 2nd Half, CY81 - A list divided by organization of all projects for which final status reports were received during the second half of CY81. Included is a narrative of the final status for each project.
- c. Summary Project Status Report - These reports are divided by organization and include a summary of funding by fiscal year and a narrative status of the work accomplished during the six month period for each active project.

MMT PROGRAM HISTORY

Figures 1 and 2 depict the size and growth of the MMT Program since 1970. These charts last appeared in the August 1980 Project Execution Report and are updated here to include the late start FY80 funding and the total FY81 funding. Figure 1 shows funding levels and Figure 2 deals with number of projects. In each figure, the upper curve represents all of the MMT projects for each fiscal year shown. The lower curve represents only those projects which initiated a new effort during the fiscal year shown. The difference between the two curves on each figure represents those approved dollars (Figure 1) and number of projects (Figure 2) which were approved in the fiscal year as follow-on projects to efforts initiated in prior years.

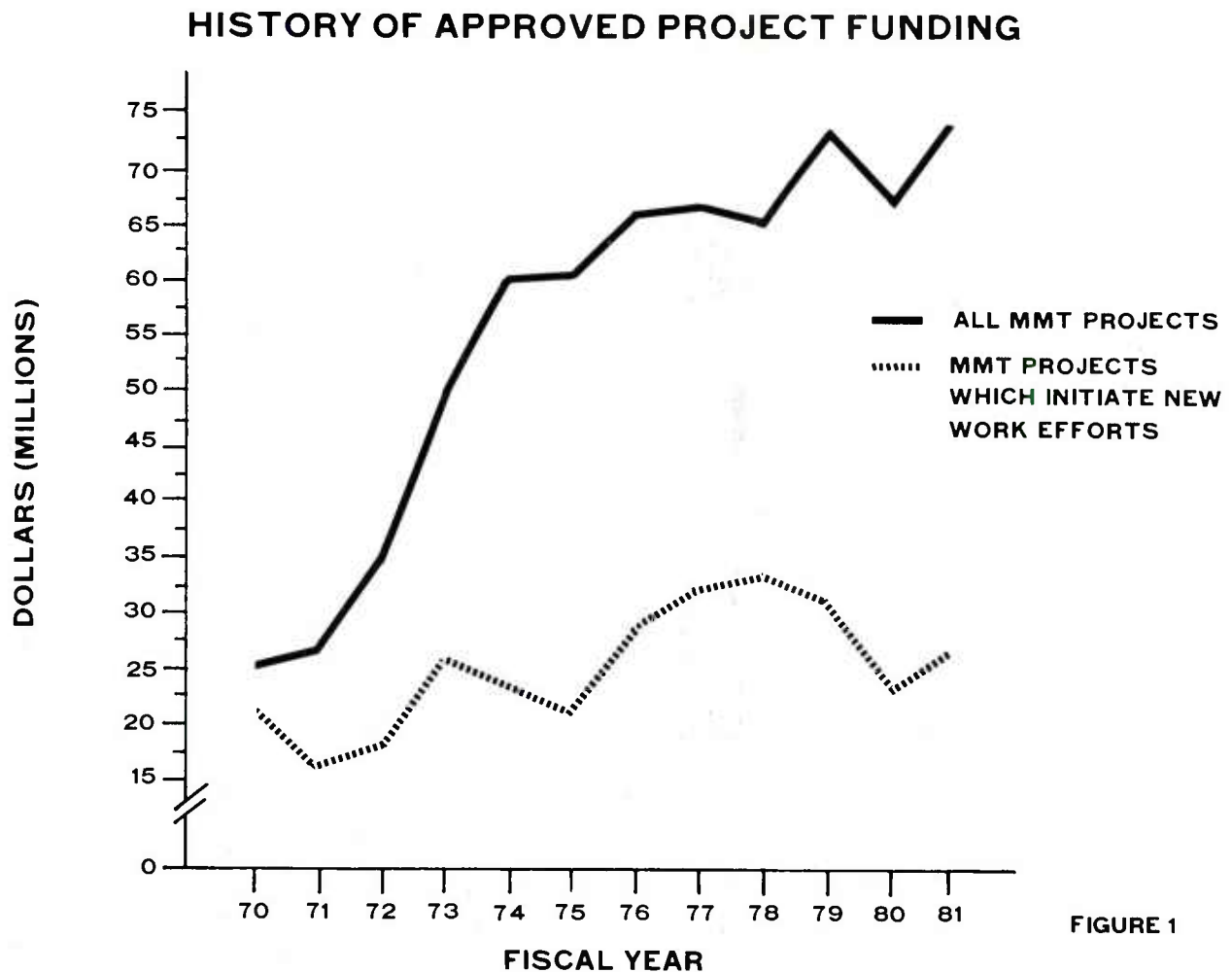


FIGURE 1

HISTORY OF NUMBER OF FUNDED PROJECTS

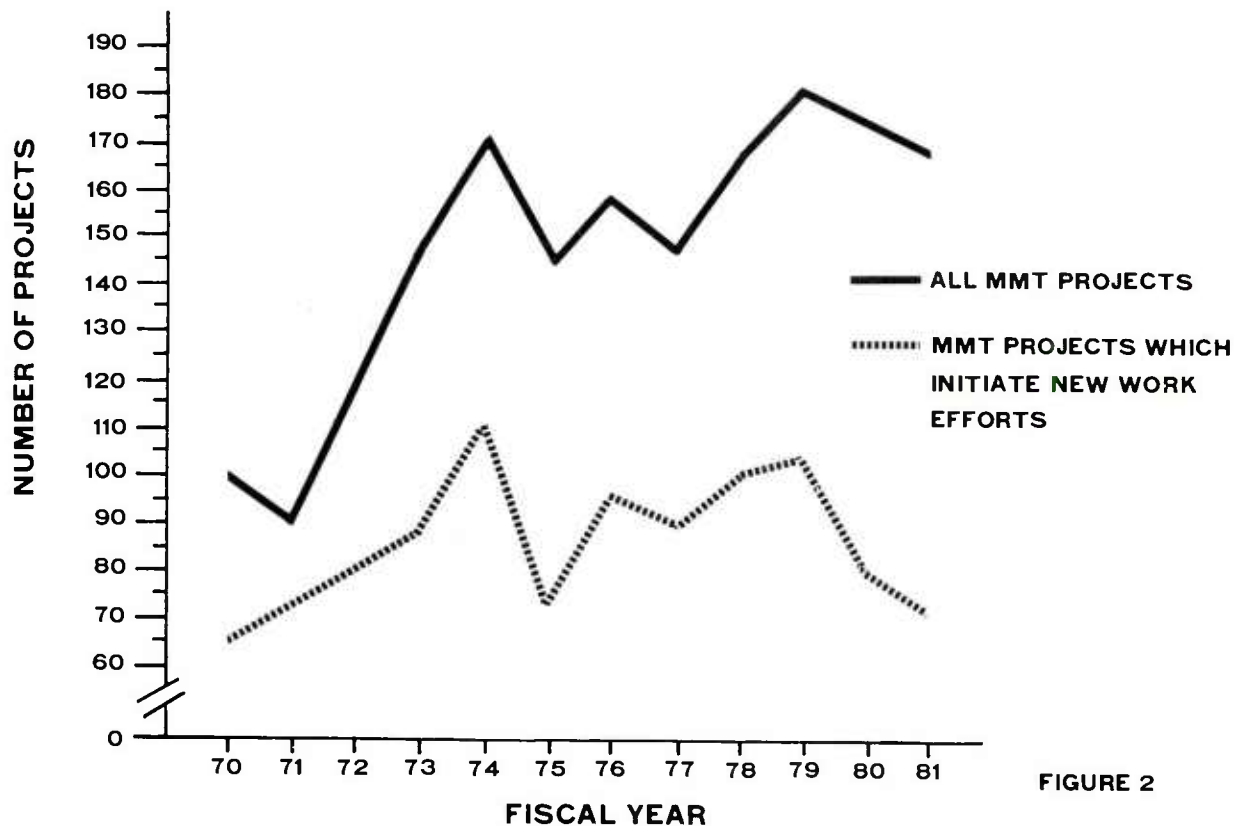


FIGURE 2

As noted in the previous report, there has been no appreciable growth in the MMT program since FY74. While the FY81 increment included in Figure 1 does show a \$6 million increase over FY80, the overall growth since FY74 has not kept pace with inflation. Furthermore, starting in FY72, less than 50% of each year's budget has been spent on initiating new work efforts. From FY72 to FY80, this figure has ranged between 49 and 35 percent. The majority of each year's funds has been spent for follow-on projects to efforts initiated in prior years. This trend, to a degree, reflects the fact that while individual work efforts are becoming more costly due to inflation and technical complexity, the overall budget has remained relatively constant permitting the initiation of fewer new work efforts. The FY80 and 81 data added to Figures 1 and 2 reinforce this trend. Thirty-six percent of the FY81 program was spent on initiating new work efforts.

STATUS REPORT SUBMISSIONS

Two areas which have been of concern in the past continue to show very little or no improvement. These areas are: (1) delinquent status reports, and (2) final status reports without technical reports. Figure 3 summarizes by Command these two situations. It can be noted from Figure 3 that 24% of all the required status reports (DRCMT 301) and 44% of all the required technical reports were not available.

STATUS REPORT (RCS DRCMT 301) SUBMISSIONS

Command	*301 Reports Required	*301 Reports Submitted	Number and (%) of Delinquent 301 Reports	Number of Final 301 Reports	Number of Tech Rpts Submitted w/Final Status Reports	Number and (%) of Delinquent Technical Reports
DARCOM	6	6	0 (0%)	0		
DESCOM	3	3	0 (0%)	0		
MERADCOM	19	19	0 (0%)	0		
ERADCOM	45	41	4 (9%)	6	6	0 (0%)
AMMRC	6	6	0 (0%)	3	1	2 (67%)
NLABS	5	5	0 (0%)	0		
TECOM	3	3	0 (0%)	1	0	1 (100%)
AVRADCOM	66	56	11 (17%)	7	0	7 (100%)
TSARCOM	2	0	2 (100%)	0		
CECOM	10	9	1 (10%)	0		
MICOM	62	25	37 (60%)	5	4	1 (20%)
TACOM	46	0	46 (100%)	0		
ARRADCOM/ ARRCOM (Ammo)	163	142	21 (13%)	26	18	8 (31%)
ARRADCOM/ ARRCOM (Weapons)	80	78	2 (3%)	6	1	5 (83%)
TOTAL	516	393	124 (24%)	54	30	24 (44%)

Figure 3

*Does not include FY82 projects which were recently funded and which did not require a status report.

Accuracy of MMT summary information for management depends on a complete submission of all the project status reports for each command. In December, a call letter was mailed out to each SUBMACOM. Inclosed with this letter was a computerized listing of the projects for which a status report was required for this reporting period. Also, phone calls were made to each command two weeks before the due date to inform them of their delinquent reports. As noted in Figure 3, there were still 124 reports, which five weeks after the due date, were not submitted. This is an increase of 48 reports compared to the last report period. This is also the largest number of delinquencies ever encountered. This delinquency creates a significant void in the information presented in the compiled report. Improvement must be made in this area to insure a useful review of the progression of the MMT Program.

Relative to the second area of concern, there has always been a requirement that a technical report be prepared for each project. The technical report is an accepted vehicle, and in some cases the only vehicle, for true technology transfer and its importance cannot be overstated. In May 1981, a letter from the Directorate of Manufacturing Technology reinforced the requirement that final status reports will not be submitted without a completed technical report. Of the 65 final status reports submitted during the previous reporting period, 41 of them, or 63%, did not have technical reports included. For this period, as noted in Figure 3, 54 final status reports were received with 24 of them, or 44%, being delinquent the technical report. While some improvement has been made in this area, greater strides will have to be made if true technology transfer is expected to occur. The 54 projects for which final status reports were received during this period can be found in a separate section on page 31 where the final work status is given for each project.

PROGRAM SUMMARY

Manufacturing Methods and Technology (MMT) Projects and Efforts are major elements of the Army's Manufacturing Technology (MANTECH) Program. AR 700-90 succinctly describes the MANTECH objective as the improvement of the industrial readiness and efficiency of the production base for Army materiel. Further defined objectives are stated in the Statement of Principles for the DOD Manufacturing Technology Program. This Statement, originating at the Deputy Under Secretary of Defense level, not only establishes ground rules for the Program but highlights the level of emphasis that the Program receives.

To attain the objectives described in the Statement of Principles, the Army funds discrete work units, called Projects, on a yearly basis. These projects, identified by a seven-digit number, contain work requests, which upon completion will result in an end product whose technical transfer can be effected. At times, in order to have a total work package which is implementable, (i.e., which can achieve the payback for which the work was funded) the scope can be of such a magnitude that total funding in one fiscal year can be an inefficient use of resources. In this event, the total work might be multi-year funded, (i.e., be more than one project, each having a technically transferrable end product). These total implementable work units are called "Efforts". These efforts can consist of many projects or

just be one project, depending on the amount of work required to achieve the implementable technical goal. Efforts are identified by a four-digit number which is the same as the last four digits of a project or projects which make up the effort.

The following three charts (Figures 4-6) summarize MMT project reporting and funding status for the 2nd Half of CY81. These summaries include data from the major Army Subcommands (SUBMACOM) that have active projects and the AMMRC and DARCOM sponsored projects. Cumulative figures pertaining to project distribution and expenditures of funds on contract and in-house are provided. Projects for which final reports were submitted during the period are not included in the data used for these summaries.

A summary of the MMT Program (Figure 4) indicates that the number of active projects has increased by 7% in comparison with the 2nd half of CY80. The comparison is made between parallel reporting periods (2nd half, CY80 and 2nd half, CY81) in order to observe the project number and funding changes that occur within each command and within the total program.

MMT PROGRAM SUMMARY

Organization	Number of Projects			Funding Status		Percent Change
	2nd Half CY80	2nd Half CY81	Percent Change	2nd Half CY80	2nd Half CY81	
DARCOM/DESCOM	7	9	29	2,683,000	3,682,000	-43
MERADCOM	15	19	27	4,120,000	6,118,500	49
ERADCOM	41	39	-5	25,905,200	25,516,200	-2
AMMRC	6	4	-33	14,258,900	9,036,000	-36
NLABS	4	5	25	637,100	643,500	1
TECOM	3	3	0	2,553,000	1,614,000	-37
AVRADCOM/TSARCOM	72	73	1	23,263,300	25,303,600	9
CECOM	8	9	13	4,185,000	5,925,300	42
MICOM	62	58	-6	21,680,600	26,224,000	21
TACOM	39	58	49	15,544,400	22,304,800	43
ARRADCOM/ARRCOM (Ammo)	152	145	-5	86,698,400	95,896,400	11
ARRADCOM/ARRCOM (Weapons)	64	82	28	12,962,500	16,628,500	28
TOTAL	473	504	7	214,491,400	238,892,800	9

Figure 4

It can be noted that the largest increases in number of projects were TACOM and ARRADCOM/ARRCOM (Wpns). In the case of TACOM, this increase was due to the fact that all of TACOM's status reports were delinquent for the period. As a result of not receiving new 301 reports, no projects could be closed out. However, projects were added as FY81 and FY82 funding was released. This resulted in a large net increase in the number of projects.

The largest increase in active project funding percentagewise was MERADCOM with 49% and in dollars was ARRADCOM/ARRCOM (Ammo) with \$9.2 million. The largest decrease in dollars was AMMRC which showed a reduction of \$5.1 million. This resulted from the close out of one of the MTT projects combined with delayed funding for the FY82 MTT project.

A breakout of the active projects by fiscal year is shown in Figure 5. It can be noted that one FY75 project is still active. The only requirement

ACTIVE PROJECTS BY FISCAL YEAR

Organization	75	76	77	78	79	80	81	82	TOTAL
DARCOM/DESCOM			1	1	1	2	3		9
MERADCOM				1	6	5	6		19
ERADCOM		2		6	9	10	8		39
AMMRC						1	2	1	4
NLABS				1		2	1		5
TECOM						1	1	1	3
AVRADCOM/TSARCOM				2	7	18	29	12	73
CECOM					2	2	4		9
MICOM					6	11	21	1	58
TACOM			1		5	9	21	12	58
ARRADCOM/ARRCOM (Ammo)	1	2	1	4	34	44	38	8	145
ARRADCOM/ARRCOM (Weapons)		1		4	9	25	31	8	82
TOTAL	1	5	3	19	40	90	165	43	504

2nd CY80 TOTAL	2	13	3	34	61	132	166	62	0	473
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Figure 5

left for this project (575 6494) is the completion and distribution of the final technical report. Continuing emphasis is being placed on closing out older projects. The success of this effort is shown by comparing the fiscal years 75-78 for the 2nd half CY80 with the current period. A year ago, there were 113 active projects for these fiscal years. There were only 68 projects for these years reported during the 2nd half CY81. The number of close outs during this period would have even been greater if 24% of the status reports had not been delinquent. The total span of the MMT program is now eight years. On the other end of the MMT program span is the 43 FY82 projects. The amount of FY82 projects (43) is significantly less than the amount of FY81 projects (62) that were funded at this same time last year (2nd half, CY80) due to continuing resolution delays.

Figure 6 indicates at what rate the project funds are being expended. In the past the active MMT has shown a relatively consistant 50-50 contractor/in-house ratio. But for the second CY80, these values (\$116 million vs. \$98

PROGRAM FUNDING EXPENDITURES

(MILLIONS)

Organization	Projects	Authorized Funding	Contractor		In-House	
			Amount	Expended	Remaining	Expended
DARCOM/DESCOM	9	\$ 3.7	\$ 2.5	\$ 1.2 (48%)	\$ 1.2	\$ 0.4 (30%)
MERADCOM	19	6.1	4.7	3.7 (78%)	1.4	0.4 (27%)
ERADCOM	39	25.5	21.9	15.4 (70%)	3.7	1.8 (49%)
AMMRC	4	9.0	3.3	1.8 (53%)	5.7	2.7 (48%)
NLABS	5	0.6	0.5	0.4 (76%)	0.1	*0.1 (76%)
TECOM	3	1.6	0.3	*0.3 (99%)	1.4	1.0 (73%)
AVRADCOM/TSARCOM	73	25.3	13.3	7.0 (52%)	11.9	2.5 (20%)
CECOM	9	5.9	2.4	1.3 (55%)	3.5	0.2 (4%)
MICOM	58	26.2	15.0	8.1 (53%)	11.2	1.9 (17%)
TACOM	58	22.3	9.7	6.0 (61%)	12.6	1.8 (14%)
ARRADCOM/ARRCOM (Ammo)	145	95.9	57.7	36.1 (62%)	38.2	21.0 (55%)
ARRADCOM/ARRCOM (Weapons)	82	16.6	6.9	3.0 (44%)	9.8	3.8 (39%)
TOTAL	504	\$238.7	\$138.2	\$84.3 (61%)	\$100.7	37.6 (37%)

2nd CY80 TOTAL	473	\$214.5	\$116.3	\$64.1 (55%)	\$98.3	\$43.5 (44%)
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Figure 6

*All values rounded to one decimal place.

million) are more heavily weighted on the contractors side, as are the second CY81 values (\$138 million vs. \$100 million) reflecting a greater contractor participation in the MMT program. Figure 6 also shows that compared to the same period last year, contractor expenditures are up (61% vs. 55%) and in-house expenditures are down (37% vs. 44%). The decrease in the in-house expenditures is for the most part due to the late funding of the FY82 program. This late funding did not provide any time for execution (and thus fund expenditures) to be incurred on in-house work. Furthermore, no time was available to let contracts which will ultimately be let. This results in project funds being tabulated under the "Remaining In-House" (and thus unexpended) category. The 124 delinquent projects will have an impact on this chart. There would have been additional in-house and contract funds expended that were not reported to IBEA.

MMT PROGRAM

PROJECTS ADDED 2ND HALF, CY81



PROJECTS ADDED IN 2ND HALF, CY81

ERADCOM

H 81 5178

PROGRAM FOR A GRAPHITE/EPOXY ANTENNA REFLECTOR

THE LMSC SOTAS ANTENNA REFLECTOR, WHICH IS COMPOSED OF GRAPHITE/EPOXY COMPOSITE, IS PRESENTLY ASSEMBLED TO ITS 20 FOOT LENGTH IN THREE SECTIONS. UNFORTUNATELY, THIS TECHNIQUE IS VERY LABOR INTENSIVE, AND, THEREFORE, VERY EXPENSIVE.

AMMRC

M 82 6350

MATERIALS TESTING TECHNOLOGY (MTT)

DESTRUCTIVE AND CERTAIN CONVENTIONAL NON-DESTRUCTIVE TESTING TECHNIQUES ARE RESPECTIVELY UNSUITED AND INADEQUATE OR HARD TO BE ADAPTED TO ON-LINE PRODUCTION TESTING USAGE.

NLABS

Q 81 8063

IMPROVED METHODS OF MFR OF BUTYL RUBBER HANDWEAR

THE PRESENT METHOD OF STANDARD BUTYL RUBBER GLOVE FOR DW PROTECTION IS BY A SOLE SOURCE DIPPING PROCESS WHICH REQUIRES CLOSE QUALITY AND ENVIRONMENTAL SUPERVISION INCREASED COST AND LIMITED DURABILITY AND PROTECTION.

TECOM

O 82 5071

TECOM PRODUCTION TEST METHODOLOGY ENGINEERING MEASURES

ARTILLERY, VEHICLE AND ELECTRONIC CONVENTIONAL TEST CAPABILITIES NEED TO BE UPGRADED TO PROVIDE MORE TIMELY ACCURATE TEST DATA FOR THE TEST AND EVALUATION PROCESS.

AVRADCOM

I 82 7113

COMPOSITE REAR FUSELAGE (CRF) MANUFACTURING TECHNOLOGY

APPLICATION OF COMPOSITE MATERIALS TO AIRFRAME FUSELAGE COMPONENTS POSSESSES A LARGE POTENTIAL FOR COST AND WEIGHT SAVINGS. HOWEVER, PRODUCTION MANUFACTURING PROCESSES HAVE NOT BEEN ESTABLISHED FOR LARGE, FULL-SCALE, COMPOUND CURVATURE, COMPONENTS.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

1 82 7143

CERAMIC HIGH-PRESSURE GAS PATH SEAL

METALLIC SYSTEMS CURRENTLY USED IN HIGH PRESSURE TURBINE SEALS DEGRADE DUE TO EROSION, CORROSION, AND ADVERSE RUB BEHAVIOR RESULTING IN INCREASED CLEARANCES OVER THE TURBINE BLADE TIPS AND LOSS OF ENGINE PERFORMANCE.

1 82 7197

FABRICATION OF INTEGRAL ROTORS BY JOINING

CURRENT GAS TURBINE ROTORS ARE EITHER INTEGRALLY CAST OR THE BLADES AND DISKS ARE SEPARATE UNITS. THE BLISK CONCEPT DOES NOT PERMIT OPTIMUM MECHANICAL PROPERTIES OF THE UNIT AND THE OTHER METHOD REQUIRES COMPLEX AND EXPENSIVE MACHINING.

1 82 7285

CAST TITANIUM COMPRESSOR IMPELLERS

CURRENT CENTRIFUGAL COMPRESSOR IMPELLERS ARE FABRICATED BY MACHINING THE FLOWPATH AND BLADE SURFACES FROM A FORGING. THIS RESULTS IN A SUBSTANTIAL LOSS OF MATERIAL AND EXPENSIVE MACHINING OPERATIONS.

1 82 7291

TITANIUM POWDER METAL COMPRESSOR IMPELLOR

WHEN COMPLEX CONFIGURATIONS, SUCH AS CENTRIFUGAL IMPELLERS AND COMPRESSOR ROTORS ARE UTILIZED IN GAS TURBINE ENGINES, TYPICALLY HIGH MANUFACTURING COST ARE ENCOUNTERED.

1 82 7300

IMPROVED LOW CYCLE FATIGUE CAST ROTORS

INTEGRALLY CAST TURBINE ENGINE ROTORS HAVE BEEN SHOWN TO BE COST EFFECTIVE. HOWEVER, INVESTMENT CASTING RESULTS IN LARGE GRAIN SIZES IN THE DISK REGION AND THIS REDUCES FATIGUE LIFE COMPARED TO WROUGHT MATERIAL.

1 82 7322

LOW-COST TRANSPIRATION-COOLED COMBUSTOR LINER

COMBUSTOR LINERS OF ADVANCED GAS TURBINE ENGINES ARE REQUIRED TO SURVIVE USING LESS COOLING AIRFLOW THAN HERETOFORE AVAILABLE. STATE OF THE ART TRANSPIRATION COOLED LINERS CAN MEET THE REQUIREMENTS BUT MANUFACTURING PROCESSES ARE NOT COST EFFECTIVE.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

1 82 7351

COMPOSITE SHAFTING FOR TURBINE ENGINES

CURRENT MATERIAL CAPABILITIES ASSOCIATED WITH HIGH SPEED GAS TURBINE ENGINE SHAFTING REQUIRE EXCESS BEARINGS AND CAREFUL DESIGN REGARDING SHAFT DYNAMICS.

1 82 7371

INTEGRATED BLADE INSPECTION SYSTEM (IBIS)

INSPECTION OF TURBINE ENGINE BLADES AND VANES NECESSITATES HIGH ACCURACY. THE EFFORT IS TIME CONSUMING AND SUSCEPTABLE TO ERROR.

1 82 7376

AUTO INSPECT AND PRECISION GRINDING OF SB GEARS

CURRENT MFG METHOD FOR SPIRAL BEVEL GEARS IS LABOR INTENSIVE REQUIRING CONTACT PATTERN CHECKS WITH EXPENSIVE MASTER MATING GEARS. THE PATTERN SHIFTS WITH A CHANGE IN TORQUE AND TEMPERATURE, AS A RESULT, THE TOOTH FORM EXPERIENCES GREAT STRESS.

1 82 7412

INFRARED DETECTOR FOR LASER WARNING RECEIVER

SUPPLY OF GALLIUM ARSENIDE ETALONS FOR USE AS IR DETECTORS IS LIMITED. METHODS FOR DIFFUSING THE DETECTOR JUNCTION, FOR SURFACE PASSIVATION, FOR BONDING THE INTERDIGITATED ETALON TO THE INTERDIGITATED DETECTOR ARE LARGELY HAND METHODS.

MIGOM

3 81 1121

MISSILE MFG PRODUCTIVITY IMPROVEMENT

THE HELLFIRE MISSILE WILL BE BUILT IN FACILITIES THAT ARE NOT MODERN, WITH PROCESSES THAT ARE NOT OPTIMUM AND WITH EQUIPMENT THAT IS NOT UPDATED. A STUDY OF METHODS, EQUIPMENT AND FACILITIES IS NEEDED WITH A VIEW TOWARD MODERNIZATION.

3 82 3115

ENGINEERING FOR METROLOGY AND CALIBRATION

MEASUREMENT SCIENCES OR METROLOGY MUST BE CONTINUALLY ADVANCED IN RELEVANT TECHNOLOGY AREAS TO KEEP PACE WITH MANY ARMY PROGRAMS.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

TACUM

T 82 5002

MMT FABRICATION OF TORSION BARS FROM HIGH STRENGTH STEEL

ENGINEERING ALLOY STEELS CAN BE HEAT TREATED TO A MAXIMUM WORKING HARDNESS WHICH REQUIRES LARGE DIAMETER BARS THEREBY INTERFERING WITH DESIGN FITS AND INCREASING WEIGHT.

T 82 5014

FOUNDRY CASTING PROCESSES USING FLUID FLOW + THERM ANALYS

FOUNDRY CASTING PROCESSES ARE WASTEFUL OF RAW MATERIALS AND ENERGY.

T 82 5019

STORAGE BATTERY LOW MAINTENANCE

THE MAJOR CAUSE OF TACTICAL VEHICLE BATTERY FAILURE IS BATTERY CONTAINER BREAKAGE.

T 82 5024

GEAR DIE DESIGN AND MFG UTILIZING COMPUTER TECHNOLOGY "CAM"

THE CONTROL OF DIMENSIONAL TOLERANCES OF FORGED BEVEL GEARS PRESENTS A UNIQUE PROBLEM SINCE THESE GEARS ARE NOT MFG. TO THEORETICAL EQUATIONS. THE BEVEL GEAR IS NOT DEFINED DIMENSIONALLY BUT IS PRESENTED AS REQUIREMENTS FOR TOOTH BEARING PATTERNS.

T 82 5064

LIGHT WEIGHT SADDLE TANK, PHASE III

FABRICATE AN ECONMICAL HIGH IMPACT NON-METALLIC FUEL TANK.

T 82 5075

MILITARY ELASTOMERS FOR TRACK VEHICLES (PHASE II)

TRACK LIFE IS HELD AT ITS PRESENT LEVEL BY FAILURE OF RUBBER COMPONENTS SUCH AS BUSHINGS, PADS AND BLOCKS.

T 82 5082

FLEXIBLE MACHINING SYS (FMS) PILOT LINE F/TCV COMPONENTS

PARTS FOR TRACKED COMBAT VEHICLES ARE TYPICALLY NOT MANUFACTURED IN LARGE QUANTITIES. BECAUSE OF THIS, MASS PDN TECHNOLOGIES THAT RESULT IN LOWER PDN COSTS ARE NOT USED.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

T 82 5090

IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY (PHASE IV)

MACHINE DATA ON NEWER MATERIALS AND NEW REMOVAL RATES ARE NOT ESTABLISHED.

T 82 6011

SPRINGS FROM FIBER/PLASTIC COMPOSITES

STEEL SPRINGS FOR TACTICAL VEHICLES ARE HEAVY AND SUBJECT TO FAILURE FROM FATIGUE. CARBON FIBER COMPOSITES ARE LIGHTER AND HAVE EXCELLENT FATIGUE RESISTANCE.

T 82 6053

WELDING SYSTEMS INTEGRATION

OF ALL METAL WORKING PROCESSES EMPLOYED IN TRACKED COMBAT VEHICLES MANUFACTURING, WELDING IS THE MOST LABOR INTENSIVE AND AFTER MACHINING, THE MOST COSTLY. AUTOMATION WHICH COULD REDUCE THESE COSTS IS AS YET AN UNACHIEVED GOAL.

T 82 6057

XM1 COMBAT VEHICLE

MATERIALS AND MANUFACTURING PROCESSES EMPLOYED IN THE MFG OF THE XM1 CAN BE IMPROVED BY INCORPORATING NEW TECHNOLOGIES TO THE CURRENT SYSTEM. THIS WILL ENABLE THE XM1 TO BE MANUFACTURED MORE ECONOMICALLY.

T 82 6059

M2 AND M3 FIGHTING VEHICLE SYSTEM

MATERIALS AND MANUFACTURING PROCESSES EMPLOYED IN THE MFG OF THE FVS CAN BE IMPROVED BY INCORPORATING NEW TECHNOLOGIES TO THE CURRENT SYSTEM. THIS WILL ENABLE THE FVS TO BE MANUFACTURED MORE ECONOMICALLY.

T 81 6089

ABRAMS TANK PLANT - TECH MOD PROGRAM

LIMA TANK PLANT, PRESENTLY THE ONLY ABRAMS TANK PRODUCING FACILITY, HAS PROBLEMS WITH EQUIP, FIXTURING, PROCESSING INSPECT TECHNIQUES RESULTING IN EXCESSIVE MANUF. COSTS LOW DELIVERY SCHEDULES. WARREN PLANT WILL BE USED FOR ABRAMS AROUND MID80 S.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

T 81 6098

PRODUCTION OF SPECIAL ARMOR STEEL

THERE IS NO INDUSTRIAL BASE CAPABLE OF PRODUCING ON A COMMERCIAL BASIS THE SPECIAL STEEL w/SUPERIOR BALLISTIC QUALITIES REQUIRED TO ACHIEVE THE LEVEL OF PROTECTION REQUIRED AGAINST KE LONG ROD PENETRATORS, SHAPED CHARGE, AND HE MUNITIONS.

T 81 6099

MANUFACTURING METHODS FOR SPECIALIZED ARMOR MATERIALS

INDUSTRY PRODUCTION PRACTICES F/PROVIDING COMPLEX COMPONENTS COMPOSED OF NOVEL PROTECTIVE ARMOR MATERIALS IS UNAVAILABLE OR SUFFERS FROM MARKED DEFICIENCIES.

T 81 6100

ENGINEERING SUPPORT DIRECTORATE TECH MOD PROGRAM

ENGINEERING SUPPORT DIRECTORATES MISSION TO SUPPORT R+D PROJECTS IS HINDERED BY IPE AND TMDE THAT LAGS STATE-OF-THE-ART TECHNOLOGY.

ARRADCOM-ARRCOM (AMMO)

5 82 1335

MFG TECH FOR NEW PROTECTIVE MASK

FABRICATION OF ONE-PIECE PLASTIC MASKS WITH ADEQUATE OPTICAL CHARACTERISTICS IS DIFFICULT. VISION REDUCTION AND DISTORTION ARE CRITICAL.

5 82 4061

NITROGUANIDINE PROCESS OPTIMIZATION

A NITROGUANIDINE FACILITY IS UNDER CONSTRUCTION AT SAAP TO BE OPERATIONAL IN FY80. IT UTILIZES PROCESSES NOT PREVIOUSLY USED COMMERICALLY AND IT CONTAINS MANY RECIRCULATION AND SUPPORT LOOPS, THE OPERATION OF WHICH ARE STRONGLY INTERDEPENDENT.

5 82 4062

AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS

THE MANUFACTURE AND ASSEMBLY OF THE 60/81MM PROP CHARGE INCREMENT CONTAINER IS LABOR INTENSIVE AND DOES NOT MEET PRODUCTION REQUIREMENTS.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

5 82 4189

HIGH FRAGMENTATION STEEL PRODUCTION PROCESS

THE CURRENT PRODUCTION PROCESS FOR MANUFACTURING HF1 PROJECTILES IS EXTREMELY EXPENSIVE. PROPRIETARY PRODUCTION PROCESSES DEVELOPED BY PRIVATE INDUSTRY ARE NOT AVAILABLE.

5 82 4200

TNT CRYSTALLIZER FOR LARGE CALIBER MUNITIONS

TNT MELT LOADING REQUIRES AN OPTIMUM RATIO OF MOLTEN AND SOLID TNT IN THE EXPLOSIVE MIX AT THE TIME OF POUR. THE RATIO IS OBTAINED BY THE ADDITION OF FLAKE TNT TO A QUANTITY OF MOLTEN TNT BASED ON OPERATOR JUDGEMENT.

5 81 4267

CONTINUOUS PROCESS FOR GRANULAR COMP B

THE BATCHWISE COOLING PROCESS OF RDX/TNT/WAX SLURRY ALLOWS ONLY A LIMITED CONTROL OF GRANULATION.

5 82 4281

CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS

PETROLEUM MAY NOT BE AVAILABLE IN FUTURE TO MEET PRODUCTION REQUIREMENTS.

5 82 4344

ESTAB OF WASTE DISPOSAL TECH FOR M687 BINARY PROJECT

LARGE QUANTITIES OF SOLID WASTES ARE GENERATED DURING OF MFG. THERE IS NO ACCEPTABLE DISPOSAL METHOD. DRUM STORAGE IS NOT FEASIBLE AND LANDFILL MAY REQUIRE SPECIAL PREPARATION.

5 82 4454

AUTO INSP DEVICE EXPLOS CHARGE SHELL (AIDECS)

THE PRESENT METHOD OF INSPECTION LOADED PROJECTILE UTILIZES A STANDARD RADIOGRAPHIC FILM METHOD. LABOR AND MATERIAL (FILM) ARE COSTLY. DETERMINATION OF CRITICAL DEFECT IS SUBJECT TO HUMAN JUDGEMENT, FATIGUE, AND ERROR.

5 81 4553

PROCESS PARAMETERS FOR COLD DRAWING ALLOY STEELS

THE USE OF MORE HIGHLY ALLOYED STEELS TO MEET PROPERTY REQUIREMENTS MAY NEGATE USE OF COLD DRAW PROCESS, WITH RESULTANT COST INCREASES.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

5 81 4555

INFRARED MONITORING OF PYROTECHNIC BLENDING

DURING BLENDING OPERATIONS IN THE MANUFACTURE OF NUMEROUS PYROTECHNIC COMPOSITIONS, FLASHES OR FIRES IN THE BLENDER AND BAYS ARE A PERSISTENT PROBLEM.

5 81 4558

THERMAL DEHYDRATION PROCESS SAFETY AND OPERATIONAL REDESIGN

THERMAL DEHYS WERE EVALUATED UNDER 2 MMT PROGRAMS, ONE FOR CASBL AND ONE FOR CAMBL. A THIRD THERMAL DEHY WAS CONSTRUCTED FOR C-LINE, AND DURING PROVE-OUT, AN INCIDENT OCCURRED. THE EXACT SOURCE OF INITIATION WAS NOT DETERMINED BY INVESTIGATION BOARD.

ARRADCOM-ARRCOM (WPNS)

6 82 7730

MANUFACTURE OF SPLIT RING BREECH SEALS

SPLIT RINGS REQUIRE PRECISE MFG. PRESENT METHODS ARE OUTDATED AND COSTLY REQUIRING MUCH HAND FINISHING BY HIGHLY SKILLED WORKERS. REJECTION RATE HIGH WITH MUCH REWORK.

6 82 7926

HOT ISOSTATIC PRESSING (HIP) OF LARGE COMPONENTS

MANY HOURS ARE REQUIRED TO MACHINE THE BREECH BLOCK FORGING TO THE FINISHED PART. MORE THAN 25% OF FORGING BECOMES CHIPS. WITH HIGH COST OF ALLOY STEEL, THIS BECOMES A VERY COSTLY WASTE OF MATERIAL.

6 82 8024

HIGH SPEED ABRASIVE BELT GRINDING

SLIDE SURFACE DIAMETER AND FINISH IS PRESENTLY PRODUCED ON CYLINDRICAL GRINDING MACHINES USING ABRASIVE WHEELS. THE TIME IT TAKES FOR THIS OPERATION CAN BE SIGNIFICANTLY REDUCED.

6 82 8062

RAPID INTERNAL THREADING

PRODUCING INTERNAL METRIC THREADS IN BREECH RINGS IS A SERIOUS PRODUCTION PROBLEM BECAUSE OF BOTH THE TECHNIQUES AND TOOLING REQUIRED. CONVENTIONAL THREAD HUBBING PRESENTS A PRODUCTION BOTTLENECK.

PROJECTS ADDED IN 2ND HALF, CY81
(CONTINUED)

6 82 8102

POWDER METALLURGY FORGINGS WEAPONS COMPONENTS

FORGINGS AND CASTINGS ARE FABRICATED OVERSIZE AND SUBSEQUENTLY MACHINED DOWN TO FINAL DIMENSIONS. FINAL COMPONENT CONFIGURATION INVOLVES A LARGE AMOUNT OF MANPOWER AND MACHINES TO REMOVE ALLOY STEEL AS CHIPS.

6 82 8106

LARGE CALIBER POWDER CHAMBER BORING

POWDER CHAMBERS PRODUCTION ON LARGE BORE CANNON, 8 IN M201, CURRENTLY REQUIRES 14 HOURS TO ACCOMPLISH BOTH ROUGH AND FINISH OPERATIONS.

6 82 8151

PORTABLE ENGRAVING SYSTEM

CURRENTLY THE COMPONENT IDENTIFICATION LEGEND IS STAMPED BY HAMMER AND INDIVIDUAL ALPHA-NUMERIC STAMPS. THIS IS A TIME CONSUMING PROCESS WITH NO DEPTH CONTROL AND CAN PRESENT A SAFETY HAZARD TO PERSONNEL.

6 81 8305

INTEGRATED MANUFACTURING SYSTEM (IMS)

MISQS ARE APPLIED LOCALLY BUT THERE IS NO DATA MANAGEMENT SYSTEM FOR THE ENTIRE MANUFACTURING ACTIVITY. THIS INCREASES COST DUE TO LONG LEAD TIMES, SCHEDULE INTERRUPTIONS AND SHORTAGES OF MACHINE AVAILABILITY, LABOR AND MATERIALS.

6 82 8341

HOLLOW CYLINDER CUT OFF MACHINE

ESTAB. CYL LENGTH IS DONE 1 OF 2 WAYS. PARTED OFF IN A LATHE AND FACED TO LENGTH OR SAWED OFF AND THEN SET UP IN A LATHE FOR FACING TO FINAL LENGTH DIMENSIONS. IN EITHER CASE, THE OPERATION REQUIRES DOUBLE HANDLING OR SLOW OPERATING PROCEDURES.

TSARCOM

7 82 8190

IMPRVD CUTTER LIFE, T-700 COMP BLISK/IMPELLER MILLING OPER

MILLING CUTTER COST ASSOCIATED WITH THE BLISK AND IMPELLER FOR THE T-700 ENGINE IS AVERAGING \$2540 PER ENGINE AND IS CONSIDERED EXCESSIVELY HIGH.

TOTAL PROJECTS ADDED IN 2ND HALF, CY81 55

MMT PROGRAM

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF CY81



FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81

ERADCOM

H 79 3504

ADV METH F/FABR CHALCOGENIDE GL IR LENS BKS

AMORPHOUS MATERIALS CO. CAST 10" DIAMETER GE-AS-SE GLASS PLATES. LENS BLANKS WERE OBTAINED FROM PLATES BY CORE DRILLING, SAWING, GRINDING + POLISHING. OPTICAL QUALITY + YIELD MET ALL GOALS. A NEW PROCESS TO RECAST SCRAP GLASS WAS ALSO DOCUMENTED.

H 80 5094

MMT-8 KBIT MNDS BORAM

WESTINGHOUSE BUILT 8K BLOCK ORIENTED RANDOM ACCESS MEMORIES USING 16 2K CHIPS ON HYBRID SUBSTRATE. MEMORY UNIT WAS APPLIED TO 4 MILITARY SYSTEMS- ALQ-156 AIRBORNE JAMMER, ACCIDENT INFO SYSTEM, F-16 PROGRAM STORE UNIT, + ADVANCE AIRBORNE RADAR.

H 80 5110

COMMON MODULE DETECTOR ARRAY

SANTA BARBARA RESEARCH CENTER IMPROVED YIELD OF DETECTORS FROM 12% TO 20%. THEY MECHANIZED LAPPING, NON-CONTACT MEASUREMENT, COMPUTERIZED SPECTRAL SCAN, IMPROVED ANTI-REFLECTIVE COATING, + DID BATCH WAFER PASSIVATION. COULD SAVE \$1.3 MILLION/YEAR.

H 78 9793

PRODUCTION OF INTAGLIATED FIBER OPTIC PHOSPHOR SCREEN

ITT HAS SUCCESSFULLY COMPLETED THIS PROJECT. RESULTING INTAGLIATED FIBER OPTICS ARE USED ON MAJOR END ITEMS. OPTICAL TRANSFER OF INFORMATION HAS BEEN SIGNIFICANTLY IMPROVED.

2 77 9812

SPLIT CYCLE STIRLING COOLER

MARTIN MARIETTA DEMONSTRATED THE COOLER MEETS THE CONFIGURATION, PERFORMANCE, AND ENVIRONMENTAL REQUIREMENTS OF THE SPECIFICATION EXCEPT FOR THE LIFE REQUIREMENT. PARTICULATE AND GASEOUS CONTAMINATION WAS RESPONSIBLE FOR THE 750 MTBF INSTEAD OF 1000.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

2 77 9857

AUTO SEPARATION, CARRIER MOUNTING + TESTING OF SEMI-CDT DICE

HONEYWELL ESTABLISHED METHODS + EQUIPMENT FOR MOUNTING,
BURN-IN + TESTING OF IC CHIPS ON COPPER TAPE. 1200 COUNTER
CIRCUITS WERE BUILT ON A PILOT LINE USING TAB AND 160 USING
CHIP AND WIRE FOR COST COMPARISON. YIELD ON TAB WAS 84%, ON
CHIP + WIRE 43%

AMMRC

M 79 6350

MATERIALS TESTING TECHNOLOGY (MTT)

SEE SUBTASKS BELOW FOR PROJECT STATUS.

M 79 6350 2414

ELECTROTHERMAL ANALOG RESPONSE INSP OF FEED'S

THIS SUBTASK HAS BEEN COMPLETED. THE OBJECTIVE OF THIS
EFFORT WAS OBTAINED. ADDITIONAL NONDESTRUCTIVE TESTING WILL
BE REQUIRED TO PERFECT THE TECHNIQUE FOR INTEGRATION INTO
AN AUTOMATED LOADING MACHINE AS AN IN-PROCESS QUALITY
CONTROL.

M 79 6350 2422

INSPECT/MEAS METHOD FOR SPHERICAL SURFACED COMPONENTS

SEE PROJECT M 80 6350-2422 FOR STATUS.

M 79 6350 2423

KNURL INSPECTION ON 155 MM M549 RAP

THE CONTRACT WAS AMENDED TO INCLUDE THE M650 RAP. THE
DESIGN AND FAB IS SCHEDULED TO BE COMPLETE IN JAN 82.
ACCEPTANCE TESTING AND DEMONSTRATION IS PLANNED FOR THE
SECOND WEEK OF JANUARY.

M 79 6350 2447

AEROSOL TEST APPARATUS FOR BIOLOGICAL DETECT + WARNING

FINAL FISCAL REPORT. SEE PROJECT M 81 6350-2447 FOR STATUS.

M 79 6350 2448

IMPROVED GB SIMULANT

THIS SUBTASK HAS BEEN COMPLETED. THE TECHNICAL REPORT IS
30% COMPLETE AND DELIVERY IS EXPECTED DURING DECEMBER 1981.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

M 79 6350 2451

GUN TUBE ROUNDNESS MEASUREMENT

THIS TASK HAS BEEN COMPLETED. THE SYSTEM HAS BEEN DELIVERED + TESTED. THE SYSTEM PERFORMANCE IS SATISFACTORY. THE SYSTEM IS PLANNED TO BE IMPLEMENTED ON THE 8 INCH GUN TUBE LINE, AFTER FINISH BORING, BEFORE ROUGH HONE.

M 79 6350 2453

THICKNESS MEASUREMENT OF NON-MAGNETIC COATINGS

CONTRACTOR DELIVERED THE SYSTEM AUG 19. THE SYSTEM WAS REJECTED + RETURNED TO THE CONTRACTOR. CONTRACT WAS MODIFIED TO ADD AUTOMATIC PROBE EXTENDED, READ, RETRACT FEATURES TO PREVENT EXCESSIVE PROBE TIP WEAR.

M 79 6350 2455

QUENCH CRACK DETECTION

CONTRACT TO CONSTRUCT THE QUENCH CRACK SYSTEM WAS AWARDED. THE SYSTEM CONSISTS OF A SELF-PROPELLED INSP SYSTEM CAPABLE OF INSPECTING BOTH 105MM AND 155MM GUN TUBE FORGING. THE SYSTEM WAS DELIVERED TO THE WATERVLIEL ARSENAL ON OCT 30, 1981.

M 79 6390

PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER

THIS PROJECT ASSISTED IN THE PUBLICATION OF THE RAM HANDBOOK, ANALYZED ALTERNATIONS FOR THE MT JOURNAL, PUBLISHED THE MT JOURNAL, AND ASSISTED IN THE PREPARATION OF THE MT TECH NOTES.

M 80 6390

MMT PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER

PROJECT SUPPORTED PUBLICATION OF THE MANTECH JOURNAL AND NTIS NOTES. THE CAD/CAM FOR DIE MAKING REPORT WAS PUBLISHED.

TECOM

O 79 5071

TECOM TEST METHODOLOGY ENGINEERING MEASURES

SEE SUBTASKS BELOW FOR PROJECT STATUS.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

O 79 5071 36

IN-BORE RADIOGRAPHY TECHNIQUE APPLICATION

DUE TO RECENT DEVELOPMENTS OF AN ALTERNATIVE TRIGGER SYSTEM FOR USE AT THE MUZZLE HAS ELIMINATED THE REQUIREMENT FOR AN X-RAY TRIGGER AT THE MUZZLE. AS A RESULT, RECOMMENDATIONS HAVE BEEN MADE TO CLOSE THE PROJECT.

O 79 5071 42

IMPROVED CROSHER GAGES

THE LATEST PROTOTYPE DEMONSTRATION PROVED TO BE SUPERIOR TO THE STANDARD M11 GAGE IN LABORATORY TESTS AT EXTREMELY HIGH PRESSURES. THE NEXT PHASE OF THIS STUDY INVOLVED FIELD TESTS AT EXTREME TEMPERATURES.

O 79 5071 45

AERUSOL BIOLOGICAL PARTICLE SIZE MEAS. STANDARDIZATION

THE PRINCIPLE RESEARCHER RECEIVED TRAINING ON PIMC AUTOMATED PARTICLE ANALYZER FROM THE MANUFACTURER. COOPERATIVE EFFORT TO STANDARDIZE THE VISUAL METHOD FOR SIZING IS UNDERWAY.

O 79 5071 46

FERMENTATION METHODOLOGY

THE 200 LITER FERMENTATION FACILITY WAS REACTIVATED, IN WHICH MANY PARTS, PARTICULARLY GASKETS, PROBES, + MEMBRANES WERE REPLACED. NINE 200 LITER QUANTITIES SERRATIA MARCESCENS, UK8 STRAIN WERE PRODUCED ALONG WITH NUMEROUS OTHER EXPERIMENTAL LOTS.

O 79 5071 47

AVIRULENT VEE VIRUS STRAIN STANDARDIZATION

A PROCEDURE WAS DEVELOPED TO PRODUCE UNIFORM BATCHES OF TC83 VEE VIRAL SLURRIES. INFECTIVITY AND STABILITY OF THE SLURRIES WERE DETERMINED BOTH BEFORE AND AFTER AERUSOLIZATION FOR BOTH FRESH AND STORED MATERIAL.

O 79 5071 50

TOXIC GAS MEASUREMENTS DURING WEAPON FIRINGS

A TRIAL-FIRING SEQUENCE USING THE 7.62MM MACHINE GUN MOUNTED IN AN M60A TANK WAS CONDUCTED TO DETERMINE THE PERFORMANCE OF THE TWO TOXIC GAS DETECTING SYSTEMS CURRENTLY BEING USED BY MTD. BOTH OF THESE SYSTEMS ARE STATE-OF-THE-ART.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

0 79 5071 51

SAFETY EVALUATION OF AMMUNITION

THIS TASK HAS BEEN COMPLETED. ALSO, THE TECHNICAL REPORT HAS BEEN WRITTEN.

0 79 5071 55

FAST BURST REACTOR

THIS TASK HAS BEEN SUSPENDED DUE TO LACK OF FUNDS. FUNDS IN THE AMOUNT OF \$24,000 ARE REQUIRED TO COMPLETE THIS TASK.

AVRADCOM

1 79 7086

ABRADABLE SEALS FOR COMPRESSOR BLADE TIP APPLICATIONS

A DRAFT TECHNICAL REPORT HAS BEEN WRITTEN AND REVIEWED. IT WILL BE PUBLISHED SHORTLY. THIS PROJECT WILL RESULT IN SIGNIFICANT COST SAVINGS IF IMPLEMENTED. IMPLEMENTATION ON THE T-63 AND F100 ENGINES IS BEING INVESTIGATED.

1 80 7240

MACHINING METHODS FOR ESR 4340 STEEL FOR HELICOPTER APPL.

IT WAS DETERMINED THAT INSUFFICIENT FUNDS WERE AVAILABLE TO ACCOMPLISH THE INTENT OF THIS PROJECT AND SO IT WAS CANCELLED.

1 79 7285

CAST TITANIUM COMPRESSOR IMPELLERS

WORK HAS BEEN COMPLETED BUT NO FINAL REPORT DELIVERED.

1 79 7288

OPTIMAL CURING COND. FOR PROCESS FIBER-REINFORCED COMPOSITES

PROJECT WORK WAS COMPLETED. GLASS/EPOXY PREPREGS WERE CHARACTERIZED USING FTIR AND HPLC, LAID UP AND CURED WITH AUTOCLAVE AND COMPRESSION PRESS MOLDING TECHNIQUES WITH TEMPERATURE AND TIME VARIABLES TO DETERMINE OPTIMUM CURE.

1 80 7288

DETERMINATION OF OPTIMAL CURING CONDITIONS FOR COMPOSITES

PROJECT WORK WAS COMPLETED. WORK ON THE PREPREG LINE WAS DELAYED AGAIN DUE TO PROBLEMS WITH THE ELECTRIC DRIVE SYSTEM. ONE AND TWO INCH PREPREG TAPE WAS SUCCESSFULLY FORMED BEFORE THE PROBLEM OCCURRED. WORK WILL CONTINUE WITH 1 81 7288.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

1 80 7291

TITANIUM POWDER METAL COMPRESSOR IMPELLER

TOOLING/SHAPE DEVELOPMENT IN PROCESS. SECOND SHAPE TRIAL IN PREPARATION. NDI EFFORT COMPLETED. SECONDARY PROCESSING REVIEW CONDUCTED.

1 80 7382

LOW COST COMPOSITE MAIN ROTOR BLADE FOR THE UH-60A

A CONTRACT WAS AWARDED TO UNITED TECHNOLOGIES 27 AUG 81. WORK ON PHASE 1 TASK 1, MANUFACTURING PROCESS DEVELOPMENT, IS NEARING COMPLETION.

MICROM

R 79 3146

HIGH DENSITY MULTILAYER THICK FILM HYBRID MICRO CIRCUITS

MICROELECTRONICS CORP DEVELOPED SCREEN MESH SIZES, CONDUCTOR INKS, + FIRING PROFILES FOR HIGH DENSITY MULTILAYER HYBRID CIRCUITS WITH 2 MIL LINES + SPACES. CONDUCTOR PATTERNS 100 MILS LONG WERE ACHIEVED. COST WAS REDUCED 50% FROM PRIOR TECHNIQUES.

R 78 3147

ADDITIVE PROCESSES FOR FABRICATION OF PRINT CIRCUIT BOARDS

HUGHES USED AN AUTOMATED ELECTROLESS COPPER PLATING PROCESS TO CHEMICALLY DEPOSIT COPPER CONDUCTOR PATTERNS ON PCBs. LABOR COST WAS REDUCED 9% FOR ULTRA-THIN COPPER CLAD EPOXY-GLASS BOARDS WITH PEELEABLE CARRIER. 5 MIL LINES + SPACES WERE PRODUCED.

R 79 3204

INTERNAL SHEAR FORMING OF MISSILE STRUCTURES

FINAL REPORT WAS RECEIVED AND ACCEPTED. PROJECT COMPLETE.

R 80 3254

LOW COST SEMI-FLEXIBLE THIN FILM SEMICONDUCTORS (CAM)

MICROELECTRONICS ENGR CORP (MEC) SET UP A VACUUM SYSTEM, SOURCES, COMPUTER AND INTERFACE SYSTEM TO POSITION METAL MASKS OVER SUBSTRATES AND DEPOSIT CHROMIUM SOURCES + DRAINS, CADMIUM-SELENIDE SEMICONDUCTOR, AL LIXIDE INSULATOR AND AL GATES + LEADS.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

R 80 3444

FULLY ADDITIVE MANUFACTURING FOR PRINTED WIRING BOARDS

GEN DYN HELD DEMO IN OCT 81. FULLY ADDITIVE COPPER FOR PRINTED WIRING BOARDS CANNOT CURRENTLY PASS MIL P 55110. PROJECT IS COMPLETED BUT FINAL TECHNICAL REPORT IS DELINQUENT.

ARRADCOM-ARRCOM (AMMO)

5 77 1312

PAPER, CHEMICAL AGENT DETECTOR M8

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA ON 4 SEP 81. THIS PROJECT IS NOW CLOSED OUT.

5 80 1339

CHEMICAL AGENT DETECTOR PRODUCTION WASTE DISPOSAL

THE SAFE DISPOSAL OF DETECTOR DYE PRODUCTION WASTES HAS BEEN SUCCESSFULLY ACCOMPLISHED USING INCINERATION TECHNIQUES. A TECHNICAL REPORT IS BEING PREPARED.

5 79 1403

IMPROVED PROC/SUBSTITUTION OF NONTOXIC DYES-M18 SMK GRENADES

THE TOP WAS REVISED TO ALLOW PRODUCTION OF IMPROVED GRENADES WITH NEW SMOKE FORMULATIONS.

5 79 1905

PBX CONTINUOUS CASTING FOR MUNITIONS LOADING

PBX CONTINUOUS CASTING FOR MUNITIONS LOADING, PLANT LAYOUTS, EQUIPMENT LIST AND PRELIMINARY HAZARDS ANALYSIS HAVE BEEN COMPLETED. THE COMPLETED FINAL REPORT HAS BEEN SUBMITTED.

5 80 4000

AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT

LIAISON AND SUPPORT FOR CONTRACTORS AND GOCDS WAS MAINTAINED. FINAL PLANNING WAS COMPLETED FOR WORK TO BE ACCOMPLISHED WITH FUTURE YEAR FUNDING.

5 78 4041

AUTO EQUIP FOR ASSY OF MORTAR COMPONENTS

A PROTOTYPE SYSTEM FOR LOADING AND ASSEMBLY OF M204 60MM MORTAR PROPELLING CHARGES WAS DESIGNED, BUILT, DEBUGGED AND SUCCESSFULLY TESTED.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

5 79 4084

OPACITY/MASS EMISSION CORRELATION

A TECHNICAL REPORT WAS RECEIVED BY IBEA ON 25 AUG 81. THIS PROJECT IS NOW CLOSED OUT.

5 80 4084

OPACITY/MASS EMISSION CORRELATION

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA ON 19 NOV 81. THIS PROJECT IS NOW CLOSED OUT.

5 80 4137

AUTOMATED LOADING OF CENTER CORE IGNITERS

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA. THIS PROJECT IS NOW CLOSED OUT.

5 80 4225

RED WATER POLLUTION ABATEMENT SYSTEM

PDB FOR THE MCA FACILITY AT RADFORD WAS COMPLETED. TECHNOLOGY LICENSE SECURED WITH SONOCO PRODUCTS COMPANY FOR RIGHTS TO THEIR SONOCO SULFITE RECOVERY PROCESS.

5 80 4226

ON-LINE MONITORS FOR WATER POLLUTANTS

ELECTROCHEMICAL ANALYZER ACCEPTED FOR FIELD TESTING. RAMAN ANALYZER REJECTED BECAUSE OF POOR SENSITIVITY AT CONCENTRATIONS BELOW 5 MG/L. DRAFT TECHNICAL REPORT WRITTEN AT RAAP AND NOW AWAITING FINAL APPROVAL. THIS WILL COMPLETE THIS FY80 PROJECT.

5 77 4267

CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B

THE MPBMA REQUESTED CLOSE OUT OF THIS PROJECT AND INITIATED A LATE START FY81 PROGRAM WITH SCIENCE APPLICATIONS INC TO SET UP A BREADBOARD PRILLING TOWER WITH A ROTATING DISC FOR TESTING INERT SIMULANT. FUNDING OF 156K REMAINS ON HOLD AT LSAAP.

5 78 4267

CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B

THE FY78 SDW WAS ADAPTED TO AN FY82 PROGRAM TO PURCHASE AND INSTALL PILOT EQUIPMENT. A TECH REPORT WAS PUBLISHED ON THE CHARGE GENERATING CHARACTERISTICS OF FALLING GRANULAR COMPOSITION B. THIS PROJECT WAS CLOSED OUT AND RESTRUCTURED.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

5 79 4291

BLAST EFFECTS IN THE MUNITIONS PLANT ENVIRONMENT

THIS EFFORT WAS COMPLETED WITH A TECHNICAL REPORT
ARLCO-CR-81001 ON THE BLAST CAPACITY OF COLD FORMED STEEL
PANELS AND A STRENGTHENED STEEL BUILDING.

5 76 4303

ACCEPTANCE OF CONTINUOUSLY PRODUCED BLACK POWDER

ALL WORK UNDER THIS PROJECT HAS BEEN SUCCESSFULLY
COMPLETED. ICIA/INAAP LAB PERSONNEL HAVE BEEN TRAINED IN
USE AND MAINTENANCE OF THE FLAMESPREAD TESTER WHICH WILL BE
UTILIZED DURING PROVEDOUT OF THE CONTINUOUS BLACK POWDER
MANUFACTURING FACILITY.

5 79 4305

PDN TECH FOR IMPROVED WP 155MM SMOKE MUNITION (XM825)

THE FINAL TECHNICAL REPORT FOR THIS PROJECT WAS RECEIVED ON
6 OCT 81. THIS PROJECT IS NOW CLOSED OUT.

5 79 4309

PROCESS DEVELOPMENT FOR 120MM TANK AMMUNITION

SEE SUBTASKS FOR WORK STATUS.

5 79 4309 01

DEVELOP MFG METHODS FOR STICK AND JA-2 PROPELLANT

JA-2 AND DIGL-RP COMPOSITIONS WERE SUCCESSFULLY EXTRUDED ON
4 IN. AND A 15 IN. SOLVENTLESS PRESS. THE TAKE AWAY,
CUTTING AND HANDLING SYSTEMS WERE WORKED ON. FOR JA-2,
EXISTING TECHNIQUES ARE USED, FOR DIGL-RP STICKS, AN
AIR-VEY SYSTEM WAS SELECTED.

5 79 4309 02

EXPLOSIVE LOADING OF 120MM HEAT-MP

WORK SHOWED THAT THE XM830 COULD BE EFFECTIVELY CAST
LOADED. REDIRECTION FROM PM-TMAS WAS RECEIVED TO
DISCONTINUE CAST LOADING AND INITIATE WORK IN PRESS
LOADING. THIS RE-DIRECTION HIGHLIGHTED MANY POSSIBLE PDN
PROBLEMS REQUIRING FUTURE MMT WORK.

5 79 4322

MMT DESIGN/CHAR OF ELEC CNT SYST FOR PROD FAC

A FINAL TECHNICAL REPORT WAS DISTRIBUTED FOR THIS PROJECT
AND RECEIVED BY IBEA ON 8 SEP 81. THIS PROJECT IS NOW
CLOSED OUT.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

5 79 4460

CONT MIXER-ILLUMINANT COMP ANAL + CONTROL SYSTEM

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA ON 22 JAN 82.
THIS PROJECT IS NOW CLOSED OUT.

5 79 4474

DEHUMIDIFIED AIR FOR DRYING SINGLE- BASE PROPELLANT

STUDIES CONDUCTED TO DETERMINE THE MOST COST EFFECTIVE
METHOD OF DRYING SINGLE BASE PROPELLANTS WERE COMPLETED.
RESULTS SHOWED THAT USING DEHUMIDIFIED AIR FOR THIS PURPOSE
WAS NEITHER COST NOR ENERGY EFFICIENT.

5 77 6632

AUTO INSPECTION DEVICES FOR ART PROJECTILES IN MOD PLANTS

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA ON 22 JAN 82.
THIS PROJECT IS NOW CLOSED OUT.

5 77 6640

PROD CONTROL/QA OF SHAPED CHG LINERS BY AUTO X-RAY ANAL

AN AUTOMATIC COMPUTERIZED SYSTEM WAS DEVELOPED WHICH
PRODUCES HIGHLY DETAILED COLOR TEXTURE MAPS. GRAIN
ORIENTATION IN SHAPED CHARGE LINERS CAN BE MONITORED.
ANALYSIS OF THE MAPS CAN IDENTIFY VARIATIONS INTRODUCED BY
THE MANUFACTURING PROCESS.

5 79 6716

MATH MODEL OF FORMING OPERATIONS FOR ARTILLERY DESIGN

A FINAL TECHNICAL REPORT WAS DISTRIBUTED FOR THIS PROJECT
AND RECEIVED BY IBEA ON 30 OCT 81. THIS PROJECT IS NOW
CLOSED OUT.

5 79 6738

USE OF ULTRA-HI SURFACE SPEEDS F/METAL REMOVAL, ARTY SHELL

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA ON 22 JAN 82.
THIS PROJECT IS NOW CLOSED OUT.

5 78 6753

METHODS FOR ORIENTING AND FEEDING SMALL CAL AMMO

A FINAL TECHNICAL REPORT WAS RECEIVED BY IBEA ON 27 AUG 81.
THIS PROJECT IS NOW CLOSED OUT.

FINAL STATUS REPORTS RECEIVED DURING 2ND HALF, CY81
(CONTINUED)

5 79 6760

DRYING OF LOW DENSITY BALL PROPELLANT

A SERIES OF DRYING TESTS ENABLED THE ESTABLISHMENT OF DESIGN BASIS FOR A PRODUCTION SCALE DRYING FACILITY. AN EA BASED ON AVERAGE PRODUCTION RATES FOR IGNITER PROPELLANT, \$1/LB SVGS AND CAP INVT OF \$850K AND \$1100K SHOWS RESPECTIVE ROIS OF 33/24 PCT

ARRADCOM-ARRCOM (WPNS)

6 79 7730

MANUFACTURE OF SPLIT RING BREECH SEALS

FEASIBILITY OF KINKING MACHINE HAS BEEN ESTABLISHED. MODIFICATION AND TESTING WILL CONTINUE. EDM SPLITTING HAS BEEN JUDGED IMPRACTICAL. ABRASIVE CUT BEING PURSUED. POLISHING EQUIP BEING DEVELOPED IN-HOUSE.

6 78 8049

MANUFACTURING PROCESSES ENERGY CONSERVATION PROGRAM

NO CHANGE FROM LAST REPORTING PERIOD.

6 80 8059

SALVAGE OF CANNON COMPONENTS BY ELECTRODEPOSITION

THE PROJECT HAS BEEN COMPLETED. THE BRUSH PLATER AND PUMP THRU TECHNIQUES HAVE BEEN VALIDATED. THE USE OF SULFAMATE NICKEL AND LOW CONTRACTION CHROMIUM HAVE BEEN PROVEN AS SATISFACTORY METAL DEPOSITS FOR REPAIR AND SALVAGE.

6 80 8062

RAPID INTERNAL THREADING

SPECIFICATIONS HAVE BEEN PREPARED FOR THE PURCHASE OF A RAPID INTERNAL THREADER. IT IS BASED ON A TURNING APPROACH.

6 80 8105

ESTABLISH ROUGH THREAD BLANKS, 8-INCH M201 BUSHING

MACHINE SPECS WERE DEVELOPED FOR THE MODIFICATION OF EXISTING EQUIPMENT.

6 80 8106

LARGE CALIBER POWDER CHAMBER BORING

MACHINE CONCEPTS HAVE BEEN FINALIZED. EQUIPMENT TO BE MODIFIED HAS BEEN LOCATED AND IS BEING OBTAINED THROUGH PROPER CHANNELS.

TOTAL PROJECTS COMPLETED IN 2ND HALF, CY81 54

MMT PROGRAM

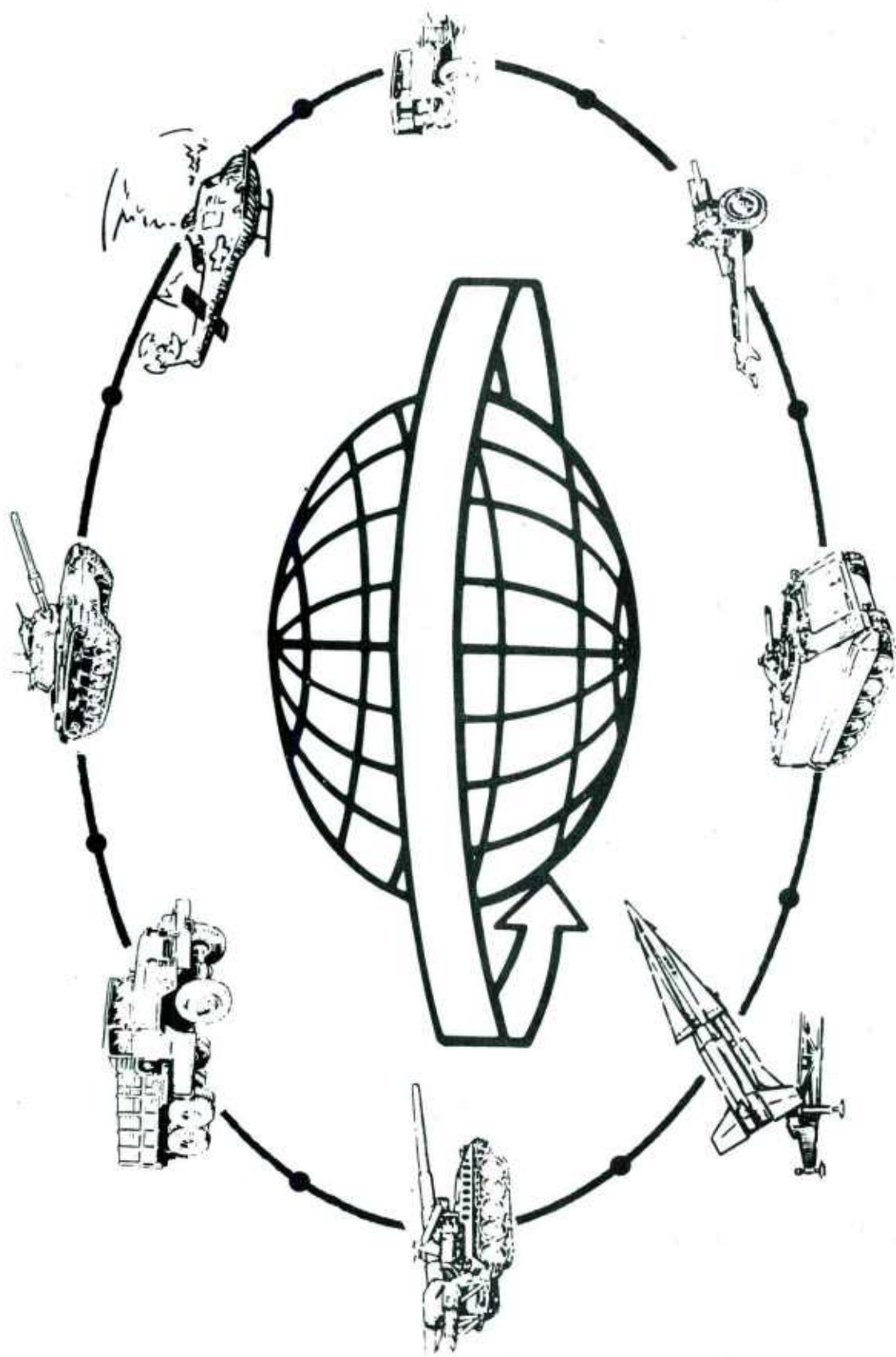
SUMMARY PROJECT STATUS REPORT



MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

SUMMARY PROJECT STATUS REPORT

The Summary Project Status Report for each major Army subcommand (SUBMACOM) is preceded by the tabulated SUBMACOM MMT project funding status. The accuracy of funding amounts is based on the individual project status reports. The status as reported here is the IBEA condensation of information contained in the report or other comments as deemed useful. If a status report was not provided, a pertinent comment was made so that the project would be printed.



**US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
(DARCOM)**

**US ARMY DEPOT SYSTEM COMMAND
(DESCOM)**

HQ-OARCOM AND DEPOT SYSTEMS COMMAND
CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
77	1	383,000	383,000	258,400 (67%)	0	0 (0%)
77	1	305,000	208,000	197,400 (94%)	97,000	97,000 (100%)
78	1	870,000	617,000	403,200 (65%)	253,000	126,800 (50%)
79	1	495,000	387,800	178,100 (45%)	107,200	107,200 (100%)
80	2	552,000	478,200	158,500 (33%)	73,800	26,700 (36%)
81	3	1,077,000	392,000	0 (0%)	685,000	9,700 (1%)
82	0	0	0	0 (0%)	0	0 (0%)
TOTAL	9	3,682,000	2,466,000	1,195,600 (48%)	1,216,000	367,400 (30%)

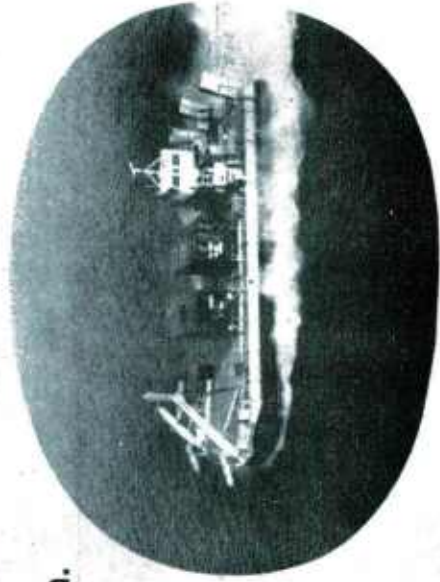
AUTHORIZED FUNDING CONTRACT ALLOCATED 67% INHOUSE REMAINING 33%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
4 71 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT NO SIGNIFICANT DEVELOPMENT MADE DURING THIS PERIOD. HOWEVER WORK IS CONTINUING AS PROJECTED.	383.0	383.0		JUN 78	MAR 81
4 77 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT SEVERAL HANDBOOKS ARE IN VARIOUS STAGES OF COMPLETION AND WORK IS CONTINUING AS PROJECTED.	305.0	208.0	97.0	SEP 79	SEP 81
D 78 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT SEVERAL HANDBOOKS ARE IN VARIOUS STAGES OF COMPLETION AND WORK IS CONTINUING AS PROJECTED.	870.0	617.0	126.8	NOV 79	JAN 82
D 79 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT ALL BUT TWO CHAPTERS OF THE FDM ON 706-100 WERE ACCEPTED + CAREC BEING PREPARED. THE TWO UNACCEPTABLE CHAPTERS HAVE BEEN GIVEN TO PLASTEC ARRADCUM TO REWRITE, AND THEY HAVE FINISHED PFDM ON ONE CHAPTER AND FDM ON THE OTHER.	495.0	387.8	107.2	MAY 83	MAY 82
D 80 5052	ARMY ENGINEERING DESIGN HANDBOOKS FOR PRODUCTION SUPPORT NO SIGNIFICANT PROGRESS MADE DURING THIS REPORT PERIOD.	460.0	432.0	26.7	JAN 83	JAN 83
D 81 5052	ARMY ENGINEERING DESIGN HANDBOOKS WORK CONTINUING ON HANDBOOKS STARTED WITH PRIOR YEAR FUNDS. DELAY EXPERIENCED IN GETTING TECHNICAL WORK GROUP TO FINALIZE REVISED OUTLINE FOR 706-245.	531.0	392.0	9.7	JAN 84	JAN 84

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
G 80 0D01	VOICE CONTROLLED PROGRAMMING OF COMPUTERS SYSTEM WAS DESIGNED AND DOCUMENTED WITH A FLOWCHART DEPICTING HARDWARE CONFIGURATION AND INFORMATION FLOW. VOICE INPUT EQUIPMENT INTEGRATED WITH GRAPHICS SYSTEM. SOME OPERATING PROCEDURES WERE DEVELOPED USING EQUIPMENT.	92.0	46.2		NOV 81	AUG 83
G 81 4D02	ROBOTIZED WELDING OF M113A2 SUSPENSION AN RFP WAS SUBMITTED TO PROCUREMENT IN NOVEMBER.	421.0			SEP 81	JUL 83
G 81 4D05	WATER JET MATERIAL REMOVAL SYSTEM A PERFORMANCE SPECIFICATION IS BEING WRITTEN TO PROCURE A WATER JET MATERIAL REMOVAL SYSTEM.	125.0			MAR 82	DEC 82



Fort Belvoir, Va.



MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND

CURRENT FUNDING STATUS, 2ND CY81

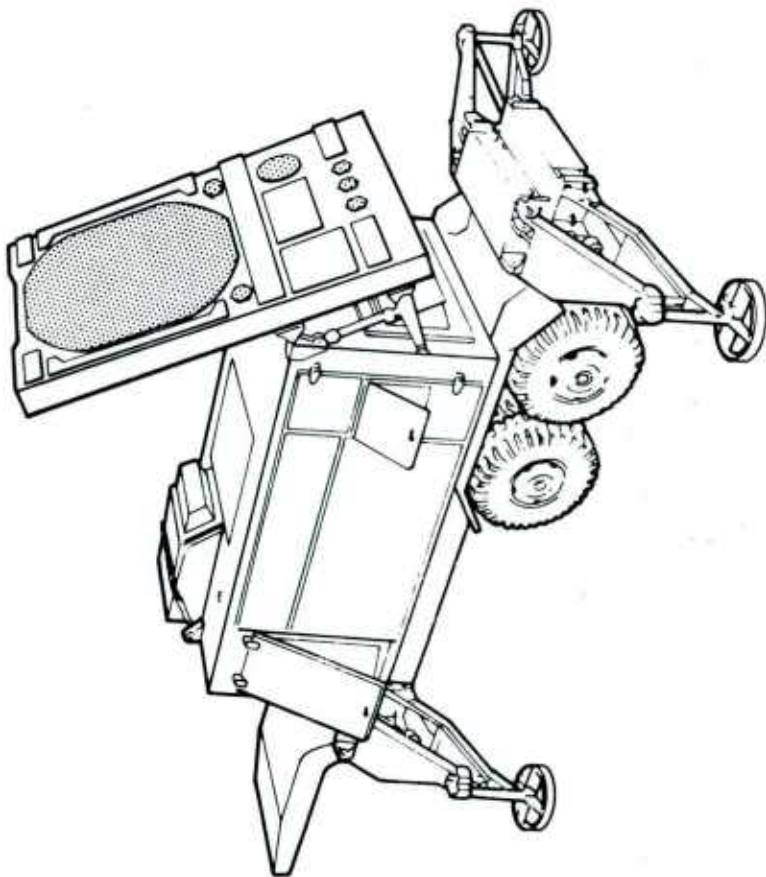
FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* *	C O N T R A C T A L L O C A T E D (\$)	F U N D I N G E X P E N D E D (\$)	* *	I N H O U S E R E M A I N I N G (\$)	F U N D I N G E X P E N D E D (\$)	* *
77	1	750,000		742,200	742,200 (100%)		7,800	0 (0%)	
78	1	350,000		295,000	204,000 (69%)		55,000	55,000 (100%)	
79	6	2,338,500		2,097,500	1,827,500 (87%)		241,000	199,800 (82%)	
80	5	1,015,000		769,100	458,300 (59%)		245,900	92,000 (37%)	
81	6	1,665,000		770,000	457,000 (59%)		895,000	54,000 (6%)	
82	0	0		0	0 (0%)		0	0 (0%)	
TOTAL	19	6,118,500		4,673,800	3,689,000 (78%)		1,444,700	400,800 (27%)	
AUTHORIZED FUNDING		CONTRACT ALLOCATED 76%		INHOUSE REMAINING 23%					

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMI-ANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
E 79 3532	MOLTEN SALT LITHIUM-CHLORIDE BATTERY PROJECT DELAYED TO ALLOW FOR EXTENSIVE CELL AND MODULE TESTS, AT NO COST AS AN OFFSHOOT OF DOE/ANL EV PROGRAM. GOAL IS 300 CYCLES GUARANTEED WITH TWICE CAPACITY OF LEAD-ACID. DELIVERIES SCHEDULED FOR 2QFY83. BATTERIES SHOULD BE CAPABLE OF 500 CYCLES.	295.0	280.0	15.0	AUG 80	SEP 83
E 79 3592	IMPROVED GRAPHITE REINFORCEMENT-PHASE 3 THE PILOT SCALE PLANT WAS COMPLETED. SEVERAL THOUSAND FEET OF 3 MICKRON DIAMETER, BURUN STRENGTHENED FIBER HAS BEEN PRODUCED WITH THIS PLANT, AND IS BEING INCORPORATED IN METAL MATRIX SAMPLES FOR TESTING. 6 MONTH SLIPPAGE HAS OCCURRED.	307.0	272.0	34.5	SEP 80	JUN 82
E 78 3604	SOLID STATE POWER SWITCH DELTA CONVERTED A R+D BREADBOARD POWER SWITCH INTO A HERMETICALLY SEALED PRODUCTION DESIGN. ENG SAMPLES FAILED TESTS. PROJECT IS BEING TERMINATED BECAUSE OF ADVANCES IN THE STATE-OF-THE-ART. DEVICES ARE COMMERCIALY AVAILABLE.	350.0	295.0	55.0	JUN 80	JAN 82
E 79 3604	SOLID STATE POWER SWITCH DELTA ELECTRONICS PHASE II EFFORT WAS TO HAVE DEVELOPED A TECH DATA PACKAGE + TEST FIXTURES + PERFORM DEVICE VERIFICATION. DUE TO THE PRESENT TECHNOLOGIES UNRESOLVABLE PROBLEMS + ADVANCES IN THE STATE-OF-THE-ART IN CMOS, THE PROJECT WILL BE CANCELLED	85.0	54.0	21.0	JUN 81	JAN 82
E 79 3708	COATED FABRIC COLLAPSIBLE FUEL TANK-CIRCULAR SEAM WEAVING PROBLEMS WERE ENCOUNTERED IN OBTAINING THE DESIRED COATING PROPERTIES USING AN AQUEOUS BASED POLYMER SOLUTION. THIS MANUFACTURING TECHNOLOGY IS CONTINUING UNDER PROJECT E8D3708.	121.0	111.0	10.0	AUG 79	JUN 82
E 80 3708	COATED FABRIC COLLAPSIBLE FUEL TANK PROGRAM - CIRCULAR SEAML PERFECTION OF THE COATING PRUCES IS CONTINUING UNDER THIS PROJECT. IMPLEMENTATION OF THIS SEAMLESS WEAVING TECHNOLOGY FOR THE PRODUCTION OF COATED FABRIC COLLAPSIBLE FUEL TANKS WILL BE CONTINGENT UPON SUCCESSFUL PERFECTION OF A COATING/APPL PRUCEDUR	100.0	15.7	45.3	SEP 81	JUN 82
E 79 3709	CONTINUOUS LENGTH FUEL HUSE ALL FUNDS HAVE BEEN EXPENDED. PHASE III WORK WILL BE CONDUCTED IN PROJECT E 8D 3709.	245.0	164.5	65.3	SEP 81	JUN 82
E 80 3709	CONTINUOUS LENGTH FUEL HUSE PHASE III WORK WAS NEGOTIATED AND A CONTRACT MODIFICATION WAS AWARDED TO DURADYNE INC. PRODUCTION EQUIPMENT IS BEING MODIFIED AND TOOLING PURCHASED TO FABRICATE 500 FOOT HOSE LENGTHS.	179.0	138.5	18.7	SEP 83	SEP 83
E 80 3717	HIGH TEMPERATURE TURBINE NOZZLE FOR 10 KW POWER UNIT PRUD LUT CERAMIC VANES BEING EVAL FOR UNIFORMITY AND QUALITY. PARTS FOR FINAL NOZZLE ASSEMBLY BEING FABRICATED BY PROPOSED PRODUCTION TOOLING METHODS FOR ENGINE EVALUATION IN FOLLOW-ON PROJECTS.	400.0	375.0	25.0	OCT 82	SEP 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
E 81 3717	HIGH TEMPERATURE TURBINE NUZZLE FOR 10KW PU ENGINE TEST FACILITY BEING PREPARED TO ACCEPT CERAMIC TURBINE NOZZLE FOR ENGINE EVALUATION WHICH IS BEING PROVIDED UNDER PROJECT E 80 3717.	422.0	322.0	50.0	APR 82	MAY 82
E 79 3743	COMPOSITE SPUN MATERIAL LAUNCHING BEAM FOR BRIDGES TECHNICAL WORK HAS BEEN COMPLETED. THE TOTAL EFFORT WILL BE COMPLETED WITH PROJECT E 81 3743.	1,285.5	1,216.0	54.0	SEP 80	SEP 82
E 81 3743	COMPOSITE SPUN MATERIAL LAUNCHING BEAM FOR BRIDGES ALL TOOLING AND A WINDING MACHINE WERE FABRICATED. TEST RUNS FOR EACH PROCESS (WINDING, FORMING, AND MOLDING), WERE COMPLETED, AND A FULL SCALE PROTOTYPE SECTION WAS FABRICATED.	454.0	100.0		JAN 82	SEP 82
E 81 3745	MNT AL SKIN-GRAPHITE/EPOXY SANDWICH BRIDGE REINFORCEMENT NO CHANGE IN STATUS. SOLICITATION OF A CONTRACTOR IN PROCESS.	350.0			JUN 82	DEC 83
E 80 3747	LIGHTER, LACV-30, SKIRT AND FINGER COMPONENTS THE PRIME CONTRACTOR HAS SUBMITTED A DRAFT OUTLINE FOR AN UNSOLICITED PROPOSAL.	191.0	106.0	3.0	NOV 80	
E 81 3747	LACV-30, SKIRT + FINGER COMPONENTS THE CANDIDATE CONTRACTOR HAS SUBMITTED A DRAFT OUTLINE FOR AN UNSOLICITED VECF PROPOSAL.	69.0			FEB 83	
E 77 3749	HYDRAULIC ROTOR ACTUATORS UN-VEHICLE TESTING COMPLETED. ACTUATORS SHIPPED BACK TO BIRD-JOHNSON CO FOR LEAK TEST AND WEAR ANALYSIS.	750.0	742.2		MAY 79	SEP 82
E 80 3749	HYDRAULIC ROTARY ACTUATORS NEWLY DESIGNED CASTINGS BEING MACHINED.	145.0	133.9		DEC 81	NOV 82
E 81 3749	HYDRAULIC ROTARY ACTUATORS FOR M9 ACTUATORS BEING BENCH CHECKED.	157.0	150.0		JUL 81	SEP 82
E 81 3759	KEVLAR CABLE REINF FOR MILITARY BRIDGES A CONTRACT WAS AWARDED TO FIBER MATERIALS INC. FOR A COMBINED R+D AND MMT EFFORT. THE ENTIRE MMT EFFORT WILL BE ACCOMPLISHED AS PHASE 3 OF THE CONTRACT, AND WILL CONSIST OF OPTIMIZING THE CONTINUOUS WINDING TECHNIQUE.	213.0	198.0	4.0	MAY 82	AUG 82



ELECTRONICS R&D COMMAND (ERADCOM)

ELECTRONICS R + O COMMAND

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
76	2	431,700	375,500	349,800 (93%)	56,200	36,800 (65%)
77	0	0	0	0 (0%)	0	0 (0%)
77	6	4,795,600	4,529,600	4,080,200 (90%)	266,000	241,000 (90%)
78	4	3,697,800	3,390,700	3,338,200 (98%)	307,100	301,100 (98%)
79	9	5,398,600	4,864,200	3,380,300 (69%)	534,400	462,400 (86%)
80	10	6,076,700	4,688,100	2,586,800 (55%)	1,388,600	568,400 (40%)
81	8	5,115,800	4,007,200	1,675,700 (41%)	1,108,600	208,500 (18%)
82	0	0	0	0 (0%)	0	0 (0%)
TOTAL	39	25,516,200	21,855,300	15,411,000 (70%)	3,660,900	1,818,200 (49%)

INHOUSE REMAINING 14%

CONTRACT ALLOCATED 86%

AUTHORIZED FUNDING

S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 80 3010	MILLIMETER-WAVE SOURCES FOR 60, 94, AND 140 GHZ TRW IS MAKING PULSED IMPATT SOURCES ON 2 INCH WAFERS. TIMING CIRCUIT LAYOUT IS COMPLETE AND POWER CONDITIONING LAYOUT HAS BEGUN. HUGHES DELIVERED ONE SOURCE AND 10 DIODES AT EACH FREQ. ONLY 12 SOURCES WILL BE DELIVERED FOR THE CONFIRMATORY PHASE.	1,039.5	997.3	8.6	JUL 82	JAN 83
H 80 3012	INFRA-RED SOURCE FLR AN/ALQ-144 ***** DELINQUENT STATUS REPORT *****	350.0	264.3	21.5	JAN 81	JUN 82
H 80 3023	TUBULAR PLASMA PANEL ALL TOOLING AND FIXTURES FOR THE 2 SIZES OF PANELS HAVE BEEN COMPLETED. TEST PANELS HAVE BEEN FABRICATED. QUALITY IS IMPROVING AS EXPERIENCE IS GAINED. ADDITIONAL SLIPPAGE WILL OCCUR DUE TO EXPANSION OF FACILITIES.	800.0	674.0	56.0	APR 82	JUN 83
H 80 3026	HIGH PRESSURE OXIDE IC PROCESS ***** DELINQUENT STATUS REPORT *****	404.5	101.0	53.3	MAY 82	OCT 82
H 81 3031	10.6 UM CO-2 TEA LASERS RAYTHEON DELIVERED ACCEPTABLE ENGR SAMPLES. WORKED ON RECTANGULAR ALUMINA HOUSING, 2W-SE COUPLER, BREWSTER WINDOW TO PERMIT 2 MILLION SHOTS. SPECS WERE CHANGED TO ADD A POLARIZING ELEMENT. WILL CAUSE 5 MONTH DELAY. CO2 LASER ALLOWS SMOKE PENETRATION.	550.0	486.4	47.8	JAN 85	SEP 83
H 80 3501	THIRD GENERATION PHOTOCATHODE ON FIBER OPTIC FACEPLATE ITT EDP DIVISION HAD TROUBLE MAKING PHOTOCATHODES WITHOUT DEFECTS. IMPROVEMENTS IN THE FINAL ETCH PROCESS AND VAPOR GROWTH SYSTEM HAVE RELIEVED SOME OF THE PROBLEMS. A NEW SAMPLE LOT OF PHOTOCATHODES WAS STARTED FOR THE 25MM WAFER INTENSIFIER TUBE.	572.4	492.4	53.2	MAR 82	DEC 82
H 81 3505	HIGH CONTRAST CRT PHOSPHOR DEPOSITION AND SEALING HUGHES ISSUED PURCHASE REQUISITIONS FOR FACEPLATES, CRT ENVELOPES AND A TEST EXERCISUR. A TRANSFER OF TECHNOLOGY FROM LOCKHEED HAS BEEN ARRANGED. SPUTTERING UNIT REDESIGN IS UNDERWAY TO ALLOW COATING OF MORE THAN ONE FACEPLATE AT A TIME.	375.6	349.6	2.5	OCT 82	UCT 82
H 80 3510	TRANSDUCER PROCESS TECHNOLOGY FOR MM DELAY LINES WESTINGHOUSE ATL ACHIEVED A YIELD GOAL OF OVER 50% PER WAFER, PROVING THE PROCESS DESIGN AND TECHNOLOGY FOR THE 4.0 GHZ TRANSDUCER. A ONE YEAR EXTENSION WAS REQUESTED AT NO COST TO WORK UN 10.0 GHZ. HDL NEEDS AN ADDITIONAL 150K TO CONTINUE PROJECT.	509.0	272.0	215.0	AUG 82	AUG 82
H 78 3511	FAB OF SUBMICRON PHOTOMASKS FOR INTEGRATED CIRCUIT DEVICES ***** DELINQUENT STATUS REPORT *****	732.0	713.7	18.3	SEP 81	JUN 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMI-ANNUAL SUBMISSION CY 81 KCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 79 3516	CRYOGENIC COOLER HYBRID MOTOR CIRCUIT AEROFLEX ADDED REVERSE VOLTAGE PROTECTION + NEW GOLD BONDING PADS TO HYBRID CIRCUIT DESIGN. NEW PREFORM MATERIAL WAS USED TO ATTACH SUBSTRATE TO METAL HEADER. ENGR. SAMPLES WERE ACCEPTED. CONFIRMATORY SAMPLES ARE BEING BUILT. HYBRID GOES IN COOLER.	175.9	140.8	25.0	JUN 81	JUN 82
H 79 5000	PRODUCTION HUT FORGING OF ALKALI HALIDE LENSES HONEYWELL BUILT A SYSTEM TO PRESS KBR COLOR CORRECTION LENSES USING QUARTZ DIES. PRESSURIZED HELIUM WAS ELIMINATED. SURFACE MEASUREMENT WITH AN INTERFEROMETER YIELDED TOLERANCES TO 1/2 WAVELENGTH. STRAIN RELIEF GAINED BY PROPER STRAIN RATE SELEC.	591.0	541.0	50.0	SEP 81	JUN 82
H 81 5041	MILLIMETER WAVE MIXERS AND ARRAYS ALPHA IND. IS TESTING THE ORTHOGONAL MODE BALANCED MIXER MICROWAVE MODEL. NEEDS IMPROVED MATCH BETWEEN RF AND DUAL MODE WAVEGUIDES. QUOTES BEING TAKEN FOR MIXER HOUSING. QUARTZ WINDOW HAS -20B AT 96 GHZ INS. LOSS WHICH IS ACCEPTABLE.	576.0	495.0	66.8	JUL 83	DEC 83
H 79 5042	LARGE DIAMETER ND LITTON GREW 3 50MM DIAMETER ND-YAG CRYSTALS TO 64MM LENGTH. BOULES SHOWED SOME DEFECTS BUT WERE ADEQUATE TO MAKE 12 SAMPLE LASER RODS DELIVERED IN JUNE 1981. ALL WORK HAS NOW STOPPED. AN EXTRA \$110K NEEDED TO COMPLETE PROJECT. AWAITING GOVT APPROVAL.	350.0	303.0	47.0	JUL 81	MAR 82
H 81 5110	COMMON MODULE DETECTOR ARRAYS HONEYWELL ELECTRO-OPTICS CENTER COMPLETED WORK ON MANY PROCESSING STEPS FOR HG-CO-TE DETECTOR ARRAYS. YIELD WENT UP TO 15% BUT WHEN THE DETECTORS ARE MOUNTED ON THE CRYOGENIC COOLER, VIBRATION CAUSES MICROPHONIC PROBLEMS. TESTS WILL BE DEVELOPED.	955.0	825.0	50.0	JUN 82	JUN 82
H 80 5147	HI RESISTIVITY POLYCRYSTALLINE SILICON HEMLUCK SEMICONDUCTOR MODIFIED ITS TRICHLOROSILANE REACTOR FOR MAKING 62-74MM DIA. POLYSILICON OF DETECTOR GRADE. 330 KILOGRAMS WERE MADE. FIRM NEEDS 65K MORE TO INSTALL + PROVE THE PURIFICATION PROCESS. LEADS INTO ARCOM FACILITIES PROJ 5B1 0047.	340.0	300.0	38.0	SEP 82	DEC 82
H 81 5178	PROGRAM FOR A GRAPHITE/EPOXY ANTENNA REFLECTOR ***** DELINQUENT STATUS REPORT *****	681.0				
H 80 9563	MINATURE HIGH VOLTAGE POWER SUPPLIES FOR NIGHT VISION GOGGLES SECOND ENGINEERING SAMPLES HAVE BEEN COMPLETED. MANY OF THE UNITS DID NOT MEET THE SPECIFICATIONS. FIXES ARE IN PROGRESS AND FABRICATION OF THE CONFIRMATORY SAMPLES WILL BEGIN IN FEBRUARY.	535.0	349.1	30.0	JUN 82	JAN 83
H 80 9588	THIRD GENERATION LOW COST IMAGE INTENSIFIER TUBES VARO SPENT ALL FUNDS WITHOUT ACHIEVING PROJECT GOALS. TWC TUBE PROCESSING STATIONS WERE BUILT. NO RECENT TUBE STARTS WERE MADE DUE TO FRITTED OPTICS LEAK PROBLEM. A REDUCED EFFORT AT NO ADDED COST TO GOVT IS PLANNED. VARO SPENT \$20K OF OWN FUNDS.	900.0	638.7	78.7	APR 83	SEP 84

S U M M A R Y P R O J E C T S T A T U S R E P O R T
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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

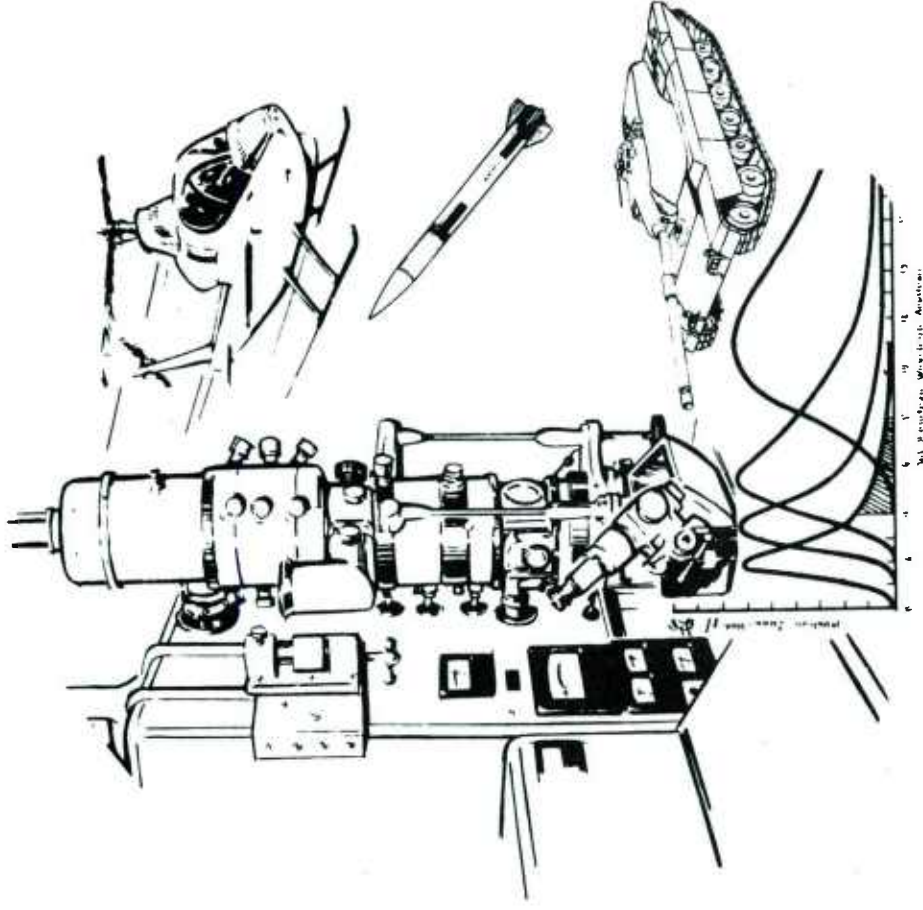
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 81 9568	THIRD GENERATION LOW COST IMAGE INTENSIFIER TUBES LITTON PLACED A HOLD ON 7056 GLASS FACEPLATES DUE TO BUNDLING PROBLEMS. DIFFERENT BONDING TEMP + GLASS SOURCE IS UNDER REVIEW. NEW EPITAXIAL GROWTH SYSTEM WILL INCREASE CAPACITY BY 16 CATHODES A DAY. SECOND ENG SAMPLES WERE FORWARDED ON 27 JAN 1982.	714.0	695.0	19.0	JUN 84	DEC 83
2 76 9738	EPITAXIAL + METALLIZATION PROCESSES F/GAAS IMPATT DIODES MICROWAVE ASSOCIATES AUGMENTED THE PRESENT MANUAL PROCEDURE FOR CONTROLLING EPITAXIAL (SELF-SAME) GROWTH WITH AUTOMATIC SYSTEM USING FEEDBACK CONTROL. AWAITING REVISED DRAFT OF FINAL TECH REPORT. DEMO HELD 15 SEP 81 AT MICROWAVE ASSOC, BURLINGTON.	248.8	247.0	1.8	JUN 77	APR 82
H 78 9738	PULSED GALLIUM ARSENIDE IMPATT DIODES MICROWAVE ASSOCIATES SPENT ALL THE CONTRACT FUNDS WITHOUT ACHIEVING CONTRACT GOALS + IS NOW WORKING WITH ITS OWN FUNDS. THE 5-LAYER IMPATT DIODE IS HARD TO MAKE BECAUSE 2 REACTORS ARE USED. THEY WERE ABLE TO MAKE SIMPLER DEVICES. PILOT RUN 15 AUG 82.	500.0	441.2	58.8	JUN 80	NOV 82
2 77 9754	CONTIN CYCLE PROC W/ SHOCK RESISTANT QUARTZ CRYSTAL UNITS GEND IS USING ITS VACUUM QUARTZ CRYSTAL FAB FACILITY BUILT UNDER 276 9754 AS PART OF A PILOT LINE CAPABLE OF PRODUCING 55 CRYSTALS A DAY. FABRICATION + ALL TESTS EXCEPT AGING ARE COMPLETE ON THE 22 MHZ AT-CUT DEVICE. TEST RESULTS TO DATE ARE GOOD.	2,156.8	2,093.8	63.0	DEC 79	JUL 82
2 76 9766	DEPOSITION OF A HIGHVOLTAGE INSULATING LAYER FOR THICK FILM ERIE TECH IS BUILDING THICK FILM HYBRID MULTIPLIER MODULES. NEW DIODES + SINGLE STEP VAPOR PHASE SOLDERING WHICH INSURES UNIFORM COMPONENT HEATING + COOLING ARE UNDER EVALUATION. HIGH CHARGING CURRENT IS STILL A MAJOR CAUSE OF FAILURE.	182.9	128.5	35.0	AUG 78	DEC 82
H 79 9783	PRODUCTION OF HIGH RESISTIVITY SILICON MATERIAL HUGHES CHECKED CUT ITS AUTOMATION-READY ZONE REFINER FOR GROWING HIGH PURITY DETECTOR GRADE SINGLE-CRYSTAL SILICON. DEMO HELD 3 DEC 81 ATTENDED BY MANY DOD (MTAG) PERSONNEL. 1" CRYSTAL BEING EVALUATED BY MARTIN. 2" FOR FIREFINDER DIODES. 3" PLANNED.	918.0	858.0	60.0	DEC 81	JAN 82
2 77 9805	AUTO MICROCIRCUIT BRIDGE PON MEASURE OF QUARTZ CRYSTALS HUGHES BUILT 12 AUTOMATED MICROCIRCUIT BRIDGES FOR MEASURING QUARTZ CRYSTAL PARAMETERS OVER 0.8 TO 220 MHZ. OPERATION DEGRATES UNDER 5 MHZ. WORK ON TWO LOW FREQUENCY BRIDGES, SOFTWARE + DOCUMENTATION NOT COMPLETED. \$57K MORE IS NEEDED TO FINISH.	818.0	718.0	75.0	JAN 79	FEB 82
H 79 9805	QUARTZ CRYSTAL PARAMETER TESTING FOLLOW-ON TO ABOVE. HUGHES WILL INCREASE CAPACITY OF PREVIOUS SYSTEM IN FREQUENCY/TEMPERATURE MODE FROM 25 TO 200 CRYSTALS A DAY. MULTICRYSTAL AGING SYSTEM WAS DELETED. TRANSPORT SYSTEM IS 50% COMPLETE. ALL COMMERCIAL EQUIPMENT HAS BEEN PURCHASED.	725.0	664.0	40.0	JUN 80	JUN 82

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PROJ NO.	TITLE + STATUS	AUTHOR- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
H 79 9807	PROCESSING HIGH STABILITY QUARTZ CRYSTAL UNIT GEND IS EXPANDING JTS H77 9754 PILOT LINE TO INCLUDE 5 + 10 MHZ AT-CUT QUARTZ CRYSTALS. WORK INCLUDES CUTTING, PULISHING, MASKING, ELECTRODING + BONDING. TEST EQUIPMENT MOD NEARLY COMPLETE. \$447K MORE IS NEEDED FOR WORK ON SC-CUT. \$430K CAME FROM AF.	760.0	702.8	50.0	MAR 81	MAY 84
2 77 9809	MEAS TECHNIQ FOR CHEMICALS IN MFG PROC FOR SOLID ST MICROW STATISTICAL ANALYSIS OF PIN DIODES HAS BEEN COMPLETED. A DRAFT FINAL TECHNICAL REPORT HAS BEEN PREPARED.	632.0	625.0	7.0	NOV 78	FEB 82
2 77 9813	RUGGEDIZED LOW COST QUADRANT DETECTOR FOR CLCP. TI EXPERIENCED SODIUM PULSING OF SUBSTRATE SILICON WHICH LOWERED RESISTIVITY. ENG SAMPLES DID NOT MEET SPEC. TI WANTS CONTRACT TERMINATION BUT CORP/HEAD PM WANTS A SECOND SOURCE. LIST OF TECH PROBLEMS WAS REQUESTED. A WORKSHOP IS PENDING.	199.0	159.0	40.0	JAN 80	JUN 82
H 79 9838	MINIATURE CATHODE RAY TUBES THE DEFLECTION COIL SENSITIVITY PROBLEM HAS BEEN SOLVED. ELECTRON OPTICS MODIFICATIONS APPEAR TO HAVE IMPROVED BRIGHTNESS CONTRAST RATIOS. TEST EQUIPMENT FOR THE CONFIRMATORY PHASE IS BEING DEVELOPED.	369.2	278.7	90.5	AUG 81	APR 82
H 79 9844	CMOS CIRCUITS USING SILICON ON SAPPHIRE -SUS-TECHNOLOGY ROCKWELL DEVELOPED UV REFLECTANCE AND X-RAY TEST METHOD TO REPLACE A SUBJECTIVE HAZE TEST FOR DETERMINING OPTIMUM EPITAXY GROWTH TEMPERATURE. 910 C IS BEST GROWTH TEMP. FILM GROWS 1 MICRON PER MINUTE. ROCKWELL IS BEHIND SCHEDULE.	770.0	686.4	49.9	NOV 81	DEC 82
2 77 9845	NUMERICALLY CONTROLLED OPTICAL FABRICATION DRAFT OF FINAL REPORT HAS BEEN REVIEWED + RETURNED TO CONTRACTOR WITH COMMENTS + CORRECTIONS. PUBLICATION OF FINAL REPORT IS EXPECTED IN 2ND QTR. OF 82.	364.5	335.5	29.0	OCT 77	NOV 81
H 78 9860	PDN TECHQ-GALLIUM ARSENIDE MINIV FIELD EFFECT TRANSISTORS GED CHIPS FAILED DUE TO PACKAGE LIMITATIONS. DEMO HELD 25 FEB 82. PILOT LINE IS ALMOST COMPLETE. ALL DEVICES MET ELECTRICAL SPECIFICATIONS. GA-AS ARE AVAILABLE COMMERCIALY.	469.3	399.3	64.0	NOV 80	AUG 82
2 77 9873	ANTENNA PATTERN MEASUREMENTS USING NEARFIELD TECHNIQUES ALL WORK HAS BEEN ACCOMPLISHED ON THIS MNT PROJECT. THE FINAL REPORT IS EXPECTED TO BE DELIVERED FROM HUGHES ON 8 JAN 82, AND THE CONTRACT COMPLETION EXPECTED BY 26 FEB 82.	625.3	598.3	27.0	OCT 79	FEB 82
H 79 9877	LIGHT EMITTING DIODE ARRAY COMMON MODULE SPECTRONICS HAD CONTAMINATION PROBLEMS IN GA-AS-P EPITAXIAL GROWTH REACTORS. THIS REQUIRED REDESIGN OF THE GAS HANDLING SYSTEM. A CONTRACT MOD REDUCED WORK SCOPE TO ALLOW 20% REACTOR YIELD AND MATERIAL COMPARABLE TO THAT FROM CURRENT SUPPLIER.	739.5	689.5	50.0	APR 81	JUL 82

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 78 9889	THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE SEE TASKS A AND B BELOW.	1,996.5	1,836.5	160.0	JUN 81	JUN 83
H 78 9889 A	THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE (ITT) ITT WAS PROVIDED \$125K MORE FUNDS TO PERFORM A REDUCED WORK SCOPE WITH A SMALLER 8 TUBE SAMPLE LOT. MICROCHANNEL PLATE ELECTRON SCRUB, CATHODE CLEANING, PHOSPHOR OUTGASSING + INDIUM SEALING WERE PERFORMED. PROBLEMS WERE DUE TO FAULTY GROWTH SYSTEMS.	837.0	757.0	80.0	JUN 81	JUN 83
H 78 9889 B	THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE (VARIAN) VARIAN PERFORMED CATEGORY A, B + C TESTS ON 5 INTENSIFIER TUBES MADE IN THE MULTIPROCESSOR. TUBES COMPLETED 600 HRS OF CATEGORY O 2000 HR LIFE TEST. PILOT RUN WAS DELETED. \$99.5K MOD WILL PERMIT ALL REMAINING TEST + SOFTWARE TO BE COMPLETED.	1,159.5	1,079.5	80.0	JUN 81	MAR 83
H 81 9889	18MM THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE SEE TASKS A AND B BELOW.	461.0	443.0	5.1	JUN 83	SEP 82
H 81 9889 A	IMP 18MM 3RD GEN D-9 MICRON WAFER INTENSIFIER TUBE (ITT) FOLLOW-ON TO H 78 9889A. ITT WILL CORRECT 3RD GEN IMAGE TUBE VEILING GLARE PROBLEM WITH GLASS BULLSEYE FACEPLATE. TUBE GAIN WILL ALSO BE INCREASED. AN INTAGLIATED FIBER OPTIC PHOSPHOR SCREEN + GAAS PHOTOCATHODE WILL BE USED.	202.0	193.0	4.0	JUN 83	SEP 82
H 81 9889 B	IMP 18MM 3RD GEN D-9 MICRON WAFER INTENSIFIER TUBE (VARIAN) FOLLOW-ON TO TASK A. VARIAN BUILT 11 OF 15 TUBES WITH NON-VEILING GLARE PHOTOCATHODE FACEPLATES + HIGHER GAIN. HIGH EBI, PHOTOSENSITIVITY, EMISSIONS, + SHADING PROBLEMS RESOLVED. MICROCHANNEL PLATE NOISE, STABILITY + COSMETIC PROBLEMS STILL EXIST.	259.0	250.0	1.1	JUN 83	JUN 83
H 80 9897	SURFACE ACOUSTIC WAVE RESONATOR + REFLECTIVE ARRAY DEVICES DEVICE TYPE A- IMPROVED DEVICES WERE RECEIVED AND FORWARDED TO HDL FOR USE IN A PROTOTYPE SYSTEM. DEVICE TYPE B- THESE DEVICES ARE NOT MEETING SPECIFICATIONS. THE PROBLEMS SEEM TO BE IN THE ETCHING AND MASKING. CORRECTIVE ACTION IS BEING FORMULATED.	626.3	599.3	14.1	AUG 82	JUN 83
H 81 9909	PRODUCTION TECHNIQUES FOR SI MW PWR TRANSISTORS MICROWAVE SEMICONDUCTOR IMPROVED TRANSISTOR GAIN + EFFICIENCY BY RESPECTIVE BASE + EMITTER, BURON + ARSENIC ION IMPLANTATION. EMITTER METALLIZATION WAS IMPROVED BY PHOTOMASK REDESIGN, ULTRASONIC CLEANING, + SILANE DEPOSITION/BAKE MODIFICATION.	803.2	713.2	17.3	SEP 83	SEP 83



US ARMY MATERIALS AND MECHANICS RESEARCH CENTER (AMMRC)

ARMY MATERIALS AND MECHANICS RESEARCH CENTER

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
80	1	4,404,000	1,714,400	1,020,900 (59%)	2,689,600	1,601,700 (59%)
81	2	4,508,000	1,618,700	748,800 (46%)	2,889,300	1,144,900 (39%)
82	1	124,000	0	0 (0%)	124,000	0 (0%)
TOTAL	4	9,036,000	3,333,100	1,769,700 (53%)	5,702,900	2,746,600 (48%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 37% INHOUSE REMAINING 63%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 80 6350	MATERIALS TESTING TECHNOLOGY SEE SUBTASKS BELOW FOR PROJECT STATUS.	4,404.0	1,714.4	1,601.7	APR 83	OCT 82
M 80 6350 2205	HOLOGRAPHIC INSPECTION OF ROTARY FORCED PREFORMS THE CONTRACT FOR THE PHASE II ELECTRONICS PACKAGE WAS AWARDED. A TWELVE MONTH DELIVERY OF THE SYSTEM IS ANTICIPATED (JULY 82).	105.0	80.0	11.5		OCT 82
M 80 6350 2417	COPPER HEAD CRITICAL FLAW DETECT OF COMPLEX COMPONENTS THE PROJECT HAS BEEN DELAYED DUE TO THE NON-AVAILABILITY OF CONTROL HOUSINGS. THE VARIATION IN THE MANUFACTURING PROCESS FOR CONTROL HOUSINGS HAS AFFECTED THE INSPECTION PROCESS AND MUST BE ADDRESSED.	182.3	133.1	40.1		MAR 82
M 80 6350 2419	FIRE CONTROL COMPONENTS AUTOMATIC INSPECTION SEE PROJECT NO M 81 6350-2419 FOR STATUS.	140.0	100.0	31.0		MAR 82
M 80 6350 2420	OPTICAL AND DIG STANDARDS AND MEASURING SYSTEM NBS COMPLETED THE DESIGN + ASSEMBLY OF THE OPTICAL + MECHANICAL EQUIP REQ. TO MEASURE THE SCRATCH STANDARDS. THE SOFTWARE HAS BEEN DEVELOPED AND THE INITIAL SYSTEM PROVE-OUT WAS ACCOMPLISHED WITHOUT ENCOUNTERING ANY PROBLEMS.	252.0	200.0			MAR 83
M 80 6350 2422	INSPECT/MEAS METHOD FOR SPHERICAL SURFACED COMPONENTS BOTH AN IN-HOUSE AND CONTRACTORS DESIGN CONCEPTS WERE EVALUATED. THE IN-HOUSE DESIGN CONCEPT WAS SELECTED.	150.0	145.0			AUG 82
M 80 6350 2447	AEROSOL TEST APPARATUS FOR BIOLOGICAL DETECTOR + WARNING SYS FINAL FISCAL REPORT. SEE PROJECT M 81 6350-2447 FOR STATUS.	275.0	248.0	27.0		FEB 81
M 80 6350 2450	GUN STEEL ADHESION CHROMIUM COATING MEASUREMENT THE ORIGINAL CONTRACT FOR UPGRADING AN ULTRACENTRIFUGAL ADHESION TEST SYSTEM WAS MODIFIED + RENEGOTIATED. THE MODIFICATION INCLUDED THE INSTALLATION OF AN IMPROVED DAMPING SYSTEM FOR STABLE ROTATION. ASSEMBLY OF ADHESION TESTER HAS RESUMED.	60.0	10.5	18.3		DEC 82
M 80 6350 2603	PROVIDE AUTO SPHERICITY INTERFEROMETER F/TEST LENS SURFACES THE TEST PROGRAM HAS BEEN COMPLETED. PRELIMINARY SET-UP + CALIBRATION OF THE INTERFEROMETER + DIGITAL RADIUS MEASURING EQUIPMENT HAS ALSO BEEN COMPLETED. LENSES FOR USE IN THE INITIAL TEST PROGRAM HAVE BEEN OBTAINED.	181.0		158.0	APR 82	MAR 82
M 80 6350 2604	NEW COMPATIBILITY TEST METHOD FOR EXPLOSIVE SYSTEMS THE REDESIGN OF THE TESTING APPARATUS HAS BEEN COMPLETED. A PROCEDURE FOR THE USE OF THE NEW APPARATUS WAS COMPLETED. ALSO, DEVELOPMENT OF THE COMPUTER SOFTWARE FOR DATA HANDLING AND EVALUATION IS UNDERWAY.	45.0			SEP 81	APR 82

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
M 80 6350 2611	SORPTION OF AGENTS ON ASC WETLERITE THE SURFACE AREA ANALYSIS METHODOLOGY HAS BEEN DEVELOPED FOR WETLERITE. THIS METHODOLOGY SOLVED THE PROBLEM OF WIDE DATA SPREAD. THE SPREAD ON ANY ONE CHARCOAL LOT HAS BEEN REDUCED TO WITHIN 4% OF THE MEAN.	37.0				APR 82
M 80 6350 2612	AUTO PROCEDURE FOR THE EVALUATION OF CHARCOAL GAS-LIVES THE DESIGN FUNDAMENTALS AFFECTING FABRICATION OF THE MULTIPLE CHARCOAL TUBE TESTER HAS BEEN COMPLETED IN THE FORM OF A COMPLETE ENGINEERING DRAWING PACKAGE. THE UNIT IS BEING FABRICATED. THE FABRICATION IS 80% COMPLETE.	62.0	35.0			MAR 82
M 80 6350 2629	GON TUBE REMOTE VISUAL INSPECTION THE DESIGN CONCEPT HAS BEEN FINALIZED. A DESIGN SPECIFICATION, ALSO, HAS BEEN COMPLETED. THIS EFFORT WILL BE DELAYED SIX MONTHS DUE TO THE PROCUREMENT CONTRACTING PROCESS.	79.0		3.8		OCT 82
M 80 6350 2643	IN-PROCESS DIM INSP ROTARY FURGED CANNON TUBES THE TECHNICAL PROPOSAL WAS RECEIVED AND EVALUATED. THE QUOTE WAS 3 TIMES THE ORIGINAL ESTIMATE. AS A RESULT OF THE LARGE QUOTE, THE PROCUREMENT SPECIFICATION IS BEING REVISED. THE PROJECT WILL SLIP SIX MONTHS.	110.0		14.4		SEP. 82
M 80 6350 2948	IMPROVED CHARCOAL EVALUATION METHODOLOGY THE CONTRACTOR HAS COMPLETED EVALUATION OF THE TUBE + M11 CANISTER TESTS. THE EVALUATION INDICATED THAT THE PRESENT TUBE DOES NOT SATISFACTORILY DUPLICATE THE M11 CANISTER TEST.	29.0		29.0		APR 82
M 81 6350	MMT MATERIALS TESTING TECHNOLOGY SEE SUBTASKS BELOW FOR PROJECT STATUS.	4,258.0	1,419.0	1,144.9	OCT 83	OCT 83
M 81 6350 2206	OPTICAL GAP INSPECTION SYSTEM THE PROTOTYPE SYSTEM HAS BEEN SHIPPED TO MILAN AAP. THE NECESSARY EXPLOSION PROOF MOD WERE COMPLETED. THE SCOPE OF WORK FOR SYS MODIFICATIONS HAS BEEN FORWARDED TO PROCUREMENT. THE CONTRACT MOD IS EXPECTED TO BE AWARDED TO THE CONTRACTOR DEC 1981.	45.0			MAR 82	MAR 82
M 81 6350 2418	HALF LIFE OF TRITIUM LAMPS ARRADCOM IS CONTINUING TO MONITOR THE BRIGHTNESS BEHAVIOR OF THE RADIOLUMINOUS LAMPS. ANALYSIS OF THE MEASUREMENT DATA INDICATES THE CONTRACTOR PRODUCED GOOD LAMPS. THERE IS NO EVIDENCE OF ACCELERATED DECAY AFTER ONE YEAR OF TESTING.	65.0		28.6		OCT 82
M 81 6350 2419	FIRE CONTROL COMPONENTS AUTOMATIC INSPECTION FAB OF A HOLDING FIXTURE TO ADAPT THE M19 TO THE TROPEL WAS COMPLETED. A TEST & EVALUATION PLAN HAS BEEN DEVELOPED. TESTING IS BEING INITIATED TO MEASURE THE MODULATION TRANSFER FUNCTION + PHASE TRANSFER FUNCTION OF THE M19, BOTH ON AND OFF AXIS.	80.0		3.6		MAR 83

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 81 6350 2447	AEROSOL TEST APPARATUS FOR BIOLOGICAL DETECTOR + WARNING SYS THE CONTRACT IS BEING RENEGOTIATED TO MODIFY THE SCHEDULE AND TO INCLUDE THE INSTALLATION, TESTING, AND PERSONNEL TRAINING.	50.0	45.0			FEB 82
M 81 6350 2448	IMPROVED GB STIMULANT THE CONTRACTOR SELECTED THE OPTIMUM MODEL FOR DESCRIBING THE PHYSICAL ADSORPTION OF GB VAPOR IN A FIXED CHARCOAL BED. THIS SELECTION WAS BASED ON THE ANALYSIS OF GB BREAKTHROUGH CURVE DATA PROVIDED TO THE CONTRACTOR BY CHEMICAL SYSTEMS DIVISION.	25.0		13.0		JAN 82
M 81 6350 2603	PROVIDE AUTO SPHERICITY INTERFEROMETER F/TEST LENS SURFACES STUDIES ARE CONTINUING TO DETERMINE DESIRED TESTING CAPABILITIES AND INSTRUMENTATION. FAMILIARIZATION IS CONTINUING WITH THE MARK II INSTRUMENTATION. A DIGITAL RADIUS SCALE HAS BEEN ALIGNED TO THE AXIS OF THE INTERFEROMETER AND CALIBRATED.	110.0	37.7			APR 82
M 81 6350 2601	NEW PROPELLANT SURVEILLANCE THE SCOPE OF WORK WAS PREPARED AS SCHEDULED.	65.0				JUN 83
M 81 6350 2802	PYROTECHNIC INGREDIENT ACCEPTANCE TESTING COMPARED NOMINAL 200/325 MG USING THE PRESENT SIEVE TECHNIQUE AND THE PROPOSED SEDIGRAPH TECHNIQUES. USED SEDIGRAPH DATA TO REVISE MIL-M-382 CIAR) FOR MG. THIS REVISION IS URGENTLY REQ TO RESUME PRODUCTION OF M206 OECDY FLARES.	85.0		46.0	JUN 83	JUN 83
M 81 6350 2604	BINARY MUNITIONS MECHANICAL RUPTURE PROPERTIES TEST FOUR RESPONSES TO THE RFP WERE RECEIVED AND WERE EVALUATED. THE SELECTION RECOMMENDATION WAS FORWARDED TO PROCUREMENT. THE CONTRACT AWARD IS ANTICIPATED IN DECEMBER.	125.0		16.3		JUL 83
M 81 6350 2806	ELECTRONIC FUZE INTEGRATED CIRCUIT AUTOMATED INSPECTION A FEASIBILITY STUDY CONTRACT WAS AWARDED. THE CONTRACTOR WILL DETERMINE THE APPROACH FOR THIS EFFORT. TWO CONTRACTORS WERE VISITED TO DISCUSS THE PROJECT SCOPE OF WORK.	50.0	40.0	4.8	MAR 82	MAR 82
M 81 6350 2811	M42/M46 MAGNETIC FLUX LEAKAGE INSPECTION PHASE I CONTRACT WAS AWARDED 25 SEP 81. THE PHASE II CONTRACTOR IS IN THE PROCESS OF BEING SELECTED. THE IMPLEMENTATION PLAN FOR THIS EFFORT HAS BEEN ESTABLISHED. IF THE PROJECT IS A SUCCESS, THE RESULTS WILL BE IMPLEMENTED ON M42/M46 GRENADE LINE.	230.0	197.0	13.0		SEP 83
M 81 6350 2813	ADAPTION KIT FUNCTION EMBEDDED MICROPROCESSOR TESTING THE SCOPE OF WORK, RFP AND SOLICITATION WAS COMPLETED. THE CONTRACT AWARD IS ANTICIPATED FOR DECEMBER 1981.	284.0				APR 84

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 81 6350 2815	CANNON TUBE AUTOMATED CHROME PLATE THICKNESS MEASUREMENT THIS HAS BEEN MODIFIED TO AUTOMATE THE MEASUREMENT CYCLE. TO DATE THE CONTRACTOR HAS FAILED TO DELIVER AN ACCEPTABLE SYSTEM. THIS INABILITY TO PERFORM BY THE CONTRACTOR WILL RESULT IN A DELAY OF THIS PROJECT.	70.0		0.4	OCT 82	OCT 82
M 81 6350 2943	DEPLETED URANIUM KE PENETRATORS ULTRASONIC INSP PROCEDURES THE SCOPE OF WORK WAS COMPLETED. PRODUCTION DU BLANKS CONTAINING INTERNAL DEFECTS AS DETERMINED USING CURRENT TEST METHODS HAVE BEEN SELECTED. THESE BLANKS HAVE FLAWS BELOW, AT, AND ABOVE REJECT LEVEL REPRESENTING 105MM KE ROUNDS.	75.0		2.0	DEC 82	DEC 82
M 81 6350 2944	PROTECTIVE MASK CANISTER ELECTROMAGNETIC INSP PROCEDURES CONTRACT SCOPE OF WORK HAS BEEN PREPARED + FORWARDED TO PROCUREMENT FOR SOLICITATION. AN IN-HOUSE EFFORT TO DETECT TWO TYPES OF DEFECTS OCCURRING IN THE THREADED AREA OF THE CANISTER HAS BEEN UNDERTAKEN. THE INITIAL RESULTS ARE ENCOURAGING.	75.0		6.3	DEC 82	DEC 82
M 81 6350 2945	QA OF COMPUTERIZED INSPECTION EQUIPMENT SOFTWARE A SURVEY OF THE ARADCOM PRODUCT ASSURANCE DIRECTORATES WAS CONDUCTED TO DETERMINE WHICH PROJECTS USE COMPUTER CONTROLLED ACCEPTANCE INSPECTION EQUIP (AIE) AND SPECIAL CONTROLS OR REQ PLACED ON CONTRACTORS TO CONTROL THE SOFTWARE FOR AIE.	125.0		35.0	NOV 82	NOV 82
M 82 6350	MATERIALS TESTING TECHNOLOGY (MTT) --- JUST FUNDED. NO 301 REQUIRED. ---	124.0				
M 81 6390	MMT PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER PUBLICATION OF THE MANTECH JOURNAL AND SUPPORT OF THE TANK AUTOMOTIVE MANTECH CONFERENCE.	250.0	199.7		MAR 82	MAR 82

RUBBER HANDWARE



CLOTHING PATTERNS



HELMETS



NATICK R&D LABORATORIES
(NLABS)

NATICK RESEARCH AND DEVELOPMENT LABORATORIES

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C U N T R A C T F U N O I N G A L L O C A T E D (\$)	* * F U N O I N G E X P E N D E D (\$)	* * I N H O U S E F U N O I N G R E M A I N I N G (\$)	* * E X P E N D E D (\$)
77	1	253,500	161,000	146,500 (90%)	92,500	57,000 (61%)
78	0	0	0	0 (0%)	0	0 (0%)
79	1	297,700	297,700	232,300 (78%)	0	0 (0%)
80	2	85,900	36,100	0 (0%)	49,800	49,800 (100%)
81	1	6,400	0	0 (0%)	6,400	6,400 (100%)
82	0	0	0	0 (0%)	0	0 (0%)
TOTAL	5	643,500	494,800	378,800 (76%)	148,700	113,200 (76%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 77% INHOUSE REMAINING 23%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMI-ANNUAL SUBMISSION CY 81 RCS DRCHT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
Q 77 8053	CADAM OF PARACHUTE HARDWARE THE COMPLETE SYSTEM TRIAL PROVED THE SYSTEM INCAPABLE OF PRODUCING ACCEPTABLE PARTS. IT WAS CONCLUDED THAT EXTENSIVE REPROGRAMMING WAS NEEDED, HOWEVER RESOURCES TO CORRECT THE PROBLEM ARE NOT AVAILABLE.	253.5	161.0	57.0	MAR 78	JUN 82
Q 80 8063	IMPROVED METHODS OF MFG OF BUTYL RUBBER HANDWEAR ACTION HAS BEEN TAKEN TO TERMINATE THE CONTRACT BECAUSE OF TECHNICAL PROBLEMS EXPERIENCED IN ATTEMPTING TO MOLD THE GLOVES. THE HIGH PRESSURE APPLIED DURING MOLDING RESULTED IN WARPAGE OF THE MOLD.	47.5	30.0	17.5	JUN 82	JUN 82
Q 81 8063	IMPROVED METHODS OF MFR OF BUTYL RUBBER HANDWEAR ACTION HAS BEEN TAKEN TO TERMINATE THE CONTRACT BECAUSE OF TECHNICAL PROBLEMS EXPERIENCED IN ATTEMPTING TO MOLD THE GLOVES. THE HIGH PRESSURE APPLIED DURING MOLDING RESULTED IN WARPAGE OF THE MOLD.	6.4		6.4		
Q 79 8066	CONTINUOUS FILAMENT HELMET PREFORM CONTRACTOR DELIVERED ALL ITEMS. BALLISTIC TESTS PASSED BUT LESS EFFECTIVE THAN STD KEVLAR FABRIC HELMETS. PROJECTED COST SAVINGS MADE EARLIER WILL NOT BE REALIZED BASED ON ACTUAL COSTS. THEREFORE NO FURTHER WORK WILL BE DONE ON THIS MMT PROJECT.	297.7	297.7		MAR 81	JAN 82
Q 80 8066	CONTINUOUS FILAMENT HELMET PREFORM CONTRACTOR DELIVERED ALL ITEMS. BALLISTIC TESTS PASSED BUT LESS EFFECTIVE THAN STANDARD KEVLAR FABRIC HELMETS. PROJECTED COST SAVINGS MADE EARLIER WILL NOT BE REALIZED BASED ON CONTRACTOR COSTS. THEREFORE NO FURTHER WORK WILL BE DONE ON THIS PROJ.	38.4	6.1	32.3	JAN 82	JAN 82

TEST AND EVALUATION COMMAND

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
80	1	822,000	148,200	146,300 (98%)	673,800	603,000 (89%)
81	1	750,000	104,700	104,700 (100%)	645,300	391,700 (60%)
82	1	42,000	0	0 (0%)	42,000	0 (0%)
TOTAL	3	1,614,000	252,900	251,000 (99%)	1,361,100	994,700 (73%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 16% INHOUSE REMAINING 84%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMI-ANNUAL SUBMISSION CY 81 RCS DRCHT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
D 80 5071	PRODUCTION TEST METHODOLOGY SEE SUBTASKS BELOW FOR PROJECT STATUS.	822.0	148.2	603.0	DEC 82	DEC 82
O 80 5071 03	BACKSPALLING CHARACTERISTICS THE TESTING WAS COMPLETED 30 JUNE 1981. THE FINAL REPORT WAS PUBLISHED IN SEPTEMBER 1981.					DEC 82
D 80 5071 14	SMOKE OBSCURATION TEST PROCEDURES THE STRATEGY FOR OBSCURATION MEASUREMENT IS EVOLVING BASED ON INFORMATION GATHERED DURING SMOKE WEEK 1981. REQUIREMENTS FOR APG ARE BEING DEFINED FOR METEOROLOGICAL INST, PARTICLE SIZE/DUST COLLECTORS, IR INSTR, AND THE DATA COLLECTION NETWORK.				DEC 82	DEC 82
D 80 5071 32	ELECTROSTATIC GENERATION AND PRECIPITATION THE TASK HAS BEEN COMPLETED. THE RESULTS OF THE EFFORT INCLUDED THE DEVELOPMENT OF A NEW METHOD FOR MEASURING THE ELECTROSTATIC POTENTIAL OF A MAN-CLOTHING SYSTEM. THIS NEW METHOD IS EXPECTED TO REPLACE THE CURRENT METHOD.					DEC 82
D 80 5071 35	PROJECTILE EDDY CURRENT INSPECTION DUE TO A CHANGE IN THE REQUIREMENT TO PERFORM RAPID NDT INSPECTION OF PROJECTILES, A REQUEST HAS BEEN SUBMITTED TO REPROGRAM THE REMAINING FUNDS FOR A NEW PROJECT, ESTABLISHING ELECTRONIC FAILURE ANALYSIS CAPABILITIES.					DEC 82
D 80 5071 40	DIRECT FIRE WEAPONS ADVANCED MUZZLE BORE SIGHT THE TASK HAS BEEN COMPLETED. THE FINAL REPORT HAS BEEN COMPLETED AND SUBMITTED FOR APPROVAL.					DEC 82
D 80 5071 62	DISPERSION DATA FOR AUTOMATIC WEAPONS AT LONG RANGE PHASE 1 OF THE PROJECT HAS BEEN COMPLETED. INITIAL WEAPONS CANDIDATES FOR THIS EFFORT HAVE BEEN EVALUATED. MANY DIFFERENCES WERE FOUND. IT WAS DETERMINED THAT ADDITIONAL FIRINGS WOULD BE NECESSARY. THIS WOULD BE VERY COSTLY + IS BEYOND THE SCOPE.				DEC 82	DEC 82
D 80 5071 63	BALLISTIC TEST OF HIGH HARDNESS STEEL ARMOR TESTING WAS COMPLETED MAY 1981. A FINAL REPORT WAS PREPARED AND DISTRIBUTED SEPTEMBER 1981.				DEC 82	DEC 82
D 80 5071 64	IMPROVED ENGINE WEAR ANALYSIS A PROCEDURE BASED ON COLUMN CHROMATOGRAPHY APPEARS TO HAVE PROMISE. A HIGH PRESSURE CHROMATOGRAPH IS BEING PROCURED. TESTING HAS BEEN SUSPENDED UNTIL THE RECEIPT OF THE REFERENCE INSTRUMENT, APRIL 1982.				DEC 82	DEC 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY B1 RCS DRCMT-301

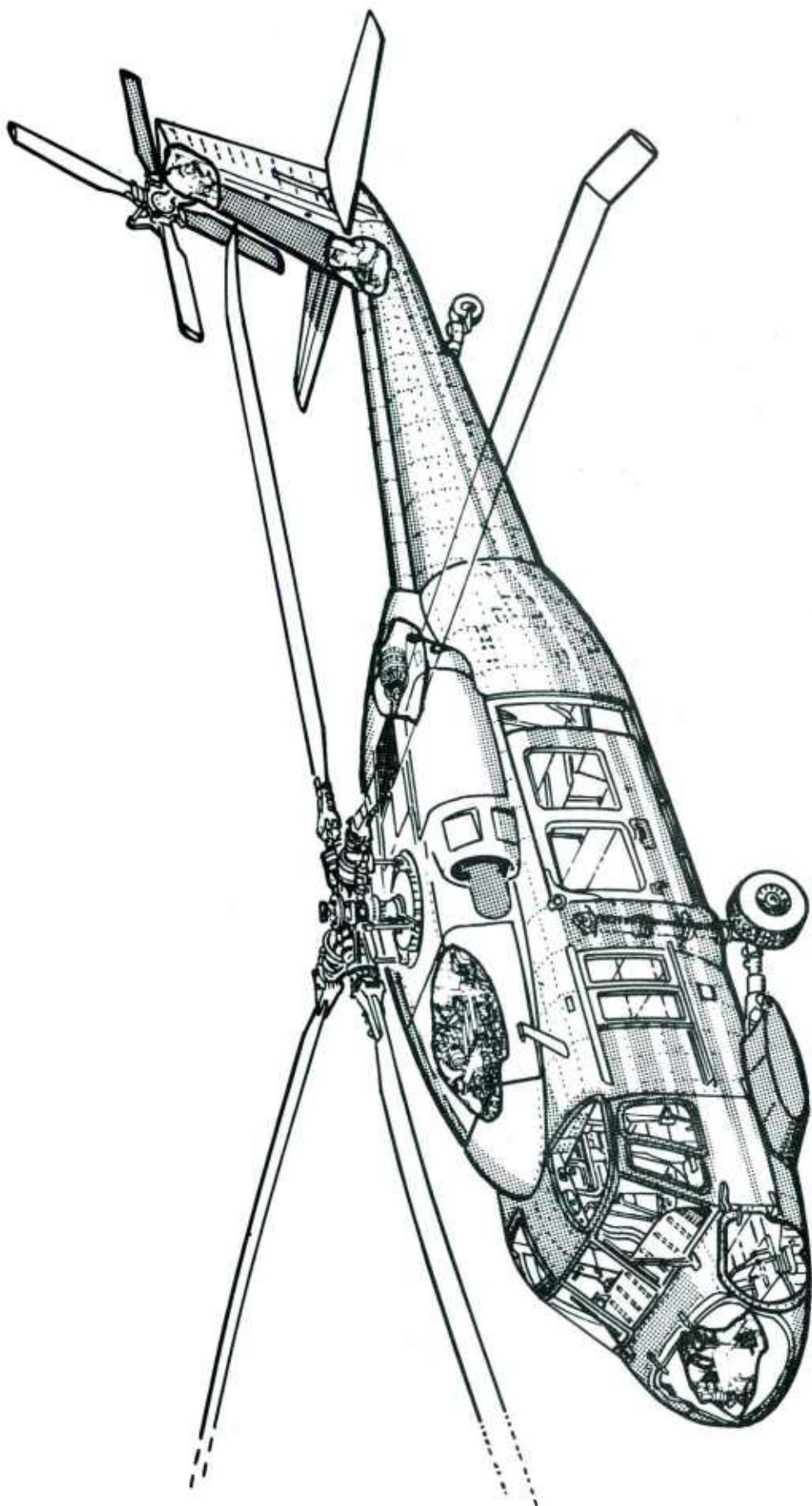
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 80 5071 65	PRODUCTION/STANDARDIZATION OF COXIELLA BURNETII SLURRIES PROCEDURES WERE ESTABLISHED FOR THE PRODUCTION OF SLURRIES OF THIS RICKETTSIA IN EMBRYONATED EGGS, AND POOLS OF INFECTED YOLK SACS THAT ARE FREE OF BACTERIAL CONTAMINATION HAVE BEEN ACCUMULATED FOR PROCESSING INTO APPROPRIATE SIZED BATCHES OF SLURRY.				0EC 82	DEC 82
0 80 5071 66	CERTIFICATION OF THE DEMILITARIZATION PROTECTIVE ENSEMBLE THIS EFFORT HAS BEEN COMPLETED. THE FINAL REPORT HAS BEEN WRITTEN AND APPROVED.				DEC B2	DEC B2
0 80 5071 70	MEASUREMENT OF ARTILLERY PROJECTILE TIME OF FLIGHT THE TASK HAS BEEN COMPLETED. THE FINAL REPORT HAS BEEN WRITTEN.					DEC 82
0 81 5071	PRODUCTION TEST METHODOLOGY ENGINEERING MEASURES SEE SUBTASKS BELOW FOR PROJECT STATUS.	750.0	104.7	391.7	DEC 83	DEC 83
0 81 5071 01	ACCEPTANCE TEST PROCEDURES A TOTAL OF 106 ATP WERE EITHER WRITTEN, REVISED, OR REVIEWED.				DEC 83	DEC 83
0 81 5071 10	TEST OPERATION PROCEDURES A TOTAL OF 76 TOPS WERE EITHER COMPLETED, DEVELOPED, OR REVISED.				DEC 83	DEC 83
0 81 5071 37	ROLLOVER TEST OF MILITARY VEHICLES THE FIRST PHASE OF THIS EFFORT WAS COMPLETED. THE SECOND PHASE IS UNDERWAY AND IS APPROXIMATELY 75% COMPLETE. THE CONTRACTOR HAS DEVELOPED AN EXTENDED ROLL-OVER INDEX. A ROLL-OVER INDICATOR IS BEING FABRICATED.				DEC 83	DEC 83
0 81 5071 43	TEST AUTOMATION DEVELOPMENT THE DEVELOPMENT AND INSTALLATION OF A METHOD OF AUTOMATING ANTENNA PATTERN COLLECTION HAS BEEN COMPLETED. THIS METHODOLOGY ALLOWS A FIVEFOLD INCREASE IN THE AMOUNT OF TESTING POSSIBLE AND PROVIDES FOR IMPROVED HANDLING AND STORAGE OF TEST DATA.				DEC B3	DEC B3
0 81 5071 46	FERMENTATION METHODOLOGY SEE PROJECT 0 79 5071-46 FOR STATUS.				DEC 83	DEC 83
0 81 5071 53	CERTIFICATION OF LOOSE CARGO BOUNCE TEST THE MODEL HARDWARE SPECIMEN (MHS) HAS BEEN COMPLETED. 16MHS HAVE BEEN FABRICATED. THESE MHS WERE USED TO DETERMINE THE VIBRATION DAMAGE POTENTIAL THAT EXISTED ON STEEL BED + WOODEN BED PACKAGE TESTER OPERATED AT SEVERAL SPEEDS AND MODES OF OPERATION.				DEC 81	DEC 83
0 81 5071 54	ON-LINE SEMI CONDUCTOR TESTING IN NUCLEAR ENVIRONMENT THE DEBUGGING OF THE SOFTWARE PROGRAMS AND THE ACTUAL CONDUCT OF THE TESTS TO DETERMINE THE REQUIRED ELECTRICAL PARAMETERS HAS BEEN COMPLETED. THE FINAL REPORT IS IN THE PROCESS OF BEING PREPARED.				DEC 81	DEC 83

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMI-ANNUAL SUBMISSION CY B1 RCS DRCHT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 81 5071 57	GENERAL PURPOSE BIT SLICE MICRO-COMPUTER A PULSE AMPLITUDE/PULSE-CODED MODULATED DECOMMUTATOR-COMPUTER INTERFACE USING THE GENERAL PURPOSE BIT-SLICE INTERFACE IS CURRENTLY BEING FABRICATED AND ASSOCIATED DESIGN SOFTWARE IS BEING DEVELOPED.				DEC 83	DEC 83
0 81 5071 58	AIR VELOCITY INFLUENCES ON FUNGAL SPORE GERMINATION A SPECIAL MEDIUM WAS DEVELOPED TO REDUCE THE DESSICATION PROBLEM ENCOUNTERED WHEN THE FUNGUS SPORES WERE EXPOSED TO AIR VELOCITIES OVER 2 METERS/SECOND. A TRIGGER WAS DEV TO SYNCHRONIZE THE FUNGAL SPORES SO THAT THEY ALL GERMINATE AT THE SAME TIME.				DEC 83	DEC 83
0 81 5071 59	SOLAR POWERED INSTRUMENTATION VAN THE VAN CONSTRUCTION AND HEATER/COOLER SYSTEMS HAVE BEEN COMPLETED EXCEPT FUR DRIVE AND CONTROL CIRCUITRY. ONLY A SMALL AMOUNT OF WORK HAS BEEN TO SIGNAL CONDITIONING HARDNESS WIRING + MICROCOMPUTER SYSTEM DUE TO LACK OF FUNDS.				DEC 83	DEC 83
0 81 5071 60	RECEIVER OPERATING CHARACTERISTICS MEASUREMENTS THE FIRST PHASE OF THE ROC METHODOLOGY EVALUATION HAS BEEN COMPLETED. THIS INCLUDED A TECHNICAL REVIEW, INSTR REQ AND TEST PROCEDURES.				DEC 83	DEC 83
0 81 5071 67	INTEROPERABILITY TEST METHODOLOGY A CONTRACT MODIFICATION WAS AWARDED 19 OCT 81. THE CONTRACTOR HAS BEEN TASKED TO PREPARE A PROJECT EXECUTION PLAN. ALSO, THE CONTRACTOR IS IN THE PROCESS OF ACQUIRING PERSONNEL WITH SPECIALIZED EXPERTISE + EXPERIENCE NECESSARY TO COMPLETE THE TASK.				DEC 83	DEC 83
0 81 5071 71	COPPER CRUSHER PRESSURE GAGES THE INTERNAL BALLISTICS DIVISION IS IN THE PROCESS OF PERFORMING AN ANALYSIS OF THE T17 + T19 GAGES USING FINITE ELEMENTS.				DEC 83	DEC 83
0 81 5071 72	IMPROVED VULNERABILITY TESTING THE TASK HAS BEEN COMPLETED. THE FINAL REPORT HAS BEEN PREPARED. A COORDINATED PLAN FOR MAKING THE NECESSARY IMPROVEMENTS FOR EFFICIENT OPERATIONS AT POVERTY ISLAND HAS BEEN COMPLETED. INCLUDED IN THE PLAN ARE SEVENTEEN SPECIFIC IMPROVEMENTS.				DEC 83	DEC 83
0 81 5071 73	INTEGRATED TEST DATA ACQUISITION THREE INTEGRATION TEST NETWORKS USING OPTICAL FIBER DATA LINK HAVE BEEN CONSTRUCTED. TWO OF THESE SYSTEMS HAVE BEEN BENCH TESTED AND HAVE HAD LIMITED FIELD TESTS. THE THIRD PROTOTYPE IS BEING PREPARED FOR TEST.				DEC 83	DEC 83

S u m m a r y P r o j e c t S t a t u s R e p o r t
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
2ND SEM/ANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 81 5071 74	SMOKE SAMPLING/CHARACTERIZATION DATA COLLECTION FOR 40 WIND TUNNEL TESTS WITH FOG/IR MATERIALS WAS COMPLETED. TESTS HAVE BEEN INITIATED TO ELIMINATE THE PROBLEM OF MOUNTED SAMPLER MOVEMENT ON EXPOSURE TO THE EXPLOSIVE SHOCK OF THE SMOKE ROUND.	(\$000)	(\$000)		DEC 83	DEC 83
0 81 5071 75	GENERAL SAMPLING TECHNOLOGY METHODS WERE SELECTED TO SUPPORT THE BINARY WEAPONS TEST PROGRAMS. ANALYTICAL AND INSTRUMENTAL LIMITATIONS AND DEFICIENCIES HAVE BEEN DEFINED AND ACTIONS ARE BEING TAKEN TO CORRECT THESE PROBLEMS.				DEC 83	DEC 83
0 81 5071 76	GAMMA DOSIMETRY IMPROVEMENT + MODERNIZATION PROGRAM AS A RESULT OF THIS EFFORT, THE ESTABLISHMENT OF A DUAL CAPABILITY, ON A ROUTINE PRODUCTION BASIS, FOR LITHIUM FLUORIDE AND CALCIUM FLUORIDE THERMOLUMINESCENT GAMMA DOSIMETRY.				DEC 83	DEC 82
0 81 5071 77	ELECTROMAGNETIC RADIATION EFFECTS/SUSCEPTIBILITY OF ARMY MAT DEVELOPED AND TESTED A TECHNIQUE OF DETECTING 3MA OF CURRENT IN ELECTRO-EXPLOSIVE DEVICES. THIS TECH CONSISTS OF INJECTING A BIAS CURRENT THROUGH A THERMISTOR PLACED ADJACENT TO THE EED.				DEC 83	DEC 83
0 81 5071 78	AUTOMATION OF ANALYSIS OF EMI DATA THE FORMAT FOR INPUTTING EMI DATA TO THE DATA BASE HAS BEEN ESTABLISHED. THE TIME + COST ESTIMATES FOR ADDING FREQUENCY ALLOCATION TO EQUIP FILES DATA TO THE COMPUTER DATA BASE HAS BEEN DETERMINED.				DEC 83	DEC 83
0 81 5071 79	ENVIRONMENTAL ISSUES GUIDE FOR HUMID TROPIC TESTING A MATRIX HAS BEEN DEVELOPED AND COORDINATED WITH THE US ARMY ENGINEERS TOPOGRAPHIC LABORATORY. THE ORIENTATION FOR THIS EFFORT IS IN ACCORDANCE WITH THE MILITARY HANDBOOK BEING DEVELOPED. THE CONCEPT FOR ENTERING/RETRIEVING DATA HAS BEEN COMPLETED.				DEC 83	DEC 83
0 81 5071 80	COMPUTER AIDED TEST PLANNING THE DRAFTS FOR BOTH THE METHODOLOGY REPORT AND TEST PLAN HAVE BEEN COMPLETED.				DEC 83	DEC 83
0 82 5071	TECOM PRODUCTION TEST METHODOLOGY ENGINEERING MEASURES --- JUST FUNDED. NO 301 REQUIRED. ---		42.0		DEC 83	DEC 83



**AVIATION R&D COMMAND
(AVRADCOM)**

**TROOP SUPPORT AND AVIATION
MATERIEL READINESS COMMAND
(TSARCOM)**

AVIATION R+O COMMANO AND TROOP SUPPORT AND AVIATION MR COMMANO

CURRENT FUNOING STATUS, 2NO CY81

FISCAL YEAR	NU. OF PROJECTS	AUTHORIZED FUNOS (\$)	* * C D N T R A C T (\$)	* * F U N O I N G EXPENDEO (\$)	* * I N H O U S E REMAINING (\$)	* * F U N O I N G EXPENDEO (\$)
77	2	207,600	171,500	111,700 (65%)	36,100	35,600 (98%)
78	5	1,865,000	1,601,200	1,291,000 (80%)	263,800	233,900 (88%)
79	7	2,537,400	1,387,000	575,500 (41%)	1,150,400	513,900 (44%)
80	18	4,386,500	3,551,700	1,942,400 (54%)	834,800	630,000 (75%)
81	29	11,400,100	6,724,900	3,068,600 (45%)	4,675,200	1,056,400 (22%)
82	12	4,907,000	0	0 (0%)	4,907,000	0 (0%)
TOTAL	73	25,303,600	13,436,300	6,989,200 (52%)	11,867,300	2,469,800 (20%)

AUTHORIZED FUNOING CONTRACT ALLOCATED 53% INHOUSE REMAINING 46%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMIANNUAL SUBMISSION CY 81 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 78 7036	ISOTHERMAL ROLL-FORGING OF COMPRESSOR BLADES EIGHTY BLADES OF AM350 ALLOY HAVE BEEN FINISH ROLL FORGED, FLASH AND TIP TRIMMED, AND SUMMA ELECTROPOLISHED. THE NEXT OPERATION IS COIN TWISTING.	425.0	375.0	50.0	JUN 79	MAY 82
1 81 7036	ISOTHERMAL ROLL-FORGING COMPRESSOR BLADES WORK ACCOMPLISHED AS BEING REPORTED UNDER 1 78 7036 UNTIL THAT PORTION OF THE EFFORT IS COMPLETED.	185.0	119.2	37.3	NOV 82	NOV 82
1 80 7052	ULTRASONICALLY-ASSISTED COLD FORMING OF TITANIUM NOSE CAPS THE WORK TO MODIFY THE EQUIPMENT HAS BEEN SUCCESSFULLY COMPLETED AND IS READY FOR SHIPMENT TO CORPUS CHRISTI ARMY DEPOT.	17.5	7.7		APR 80	APR 82
1 78 7055	ULTRASONIC WELDING OF HELICOPTOR FUSELAGE STRUCTURES A CONTRACT WAS AWARDED TO HUGHES HELICOPTER. THIS PROJECT IS BEING TERMINATED.	441.0	338.1	102.9	JAN 79	JUN 81
1 78 7091	PROCESSING AIRCRAFT COMPONENTS USING PULTRUDED MATERIALS B-STAGED DOOR TRACES HAVE BEEN POST-FORMED. TESTING OF THESE COMPONENTS IS CONTINUING. WORK IS PROGRESSING ON SCHEDULE.	380.0	350.0	30.0	SEP 80	APR 82
1 77 7108	MANUFACTURING TECHNIQUES FOR TRANSMISSION SHAFT SEALS ***** DELINQUENT STATUS REPORT *****	135.0	121.5	13.5	AUG 79	JUN 82
1 81 7108	MANUFACTURING TECHNIQUES F/TRANSMISSION SHAFT SEALS ***** DELINQUENT STATUS REPORT *****	100.0	30.0	10.0	JUN 82	JUN 82
1 81 7113	COMPOSITE REAR FUSELAGE MANUFACTURING TECHNOLOGY PHASE III, TOOLING FABRICATION, WAS COMPLETED. TOOLING CONSISTS OF FIVE STEEL PLANISHED MAIN MOLDS FOR THE CRF ASSEMBLY, AND STEEL TOOLS FOR BULKHEAD, FRAMES, HAT SECTION BEAMS, AND STIFFENERS. SOME PROTOTYPE COMPONENTS HAVE BEEN FABRICATED.	1,353.0	1,234.8	45.5	JUN 82	JUN 82
1 82 7113	COMPOSITE REAR FUSELAGE (CRF) MANUFACTURING TECHNOLOGY --- JUST FUNDED. NO 301 REQUIRED. ---	200.0				
1 80 7119	NON-DESTRUCTIVE EVAL TECHNIQUES FOR COMPOSITE STRUCTURES WORK TO FABRICATE PIEZOELECTRIC POLYMER ACOUSTIC EMISSION SENSOR, A REPORT ON A REVIEW OF ALL IN-PROCESS QUALITY CONTROL AND NONDESTRUCTIVE TECHNIQUES, AND A STATE-OF-THE-ART REVIEW COVERING RADIOGRAPHY OF COMPOSITES WERE COMPLETED.	300.0	59.0	201.0	SEP 82	SEP 82
1 81 7143	CERAMIC GAS PATH SEAL-HIGH PRESSURE TURBINE ***** DELINQUENT STATUS REPORT *****	250.0				

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 82 7143	CERAMIC HIGH-PRESSURE GAS PATH SEAL --- JUST FUNDED. NL 3D1 REQUIRED. ---	455.0				
1 78 7144	T700 ENGINE NOZZLE IN-PROCESS INSPECTION ***** DELINQUENT STATUS REPORT *****	209.0	178.1	1.0	NOV 79	JUN 82
1 78 7155	MFG METHODS FOR IMPROVED HIGH PERFORMANCE HELICOPTER GEARS THE PROTOTYPE AUSRULLING EQUIPMENT IS OPERATIONAL AND THE PROCESS IS READY TO BEGIN. THIS PROJECT IS PHASE ONE INCREMENT ONE AND HAS BEEN COMBINED WITH PHASE ONE INCREMENT TWO WHICH WAS FUNDED AS 1 80 7155.	410.0	360.0	50.0	NOV 80	SEP 83
1 80 7155	COST EFFECTIVE MANUFACTURING METHODS FOR HELICOPTER GEARS THE PROTOTYPE AUSRULLING EQUIPMENT IS OPERATIONAL AND THE PROCESS IS READY TO BEGIN. THIS PROJECT IS IN COMBINATION WITH 1 78 7155.	180.0	142.0	38.0	JUL 81	SEP 83
1 81 7155	COST EFFECTIVE MANUF METH F/IMPVO HIGH PERF HELICOPTER GEARS PROTOTYPE AUSRULLING EQUIPMENT IS OPERATIONAL AND PROCESSING IS READY TO BEGIN. THIS PROJECT IS A CONTINUUM OF PHASE ONE INCREMENT TWO UNDER PROJECTS 1 78 7155 AND 1 80 7155.	320.0	220.0	52.0	MAR 84	SEP 83
1 80 7156	ULTRASONIC ASSISTED MACHINING FOR SUPERALLOYS ULTRASONIC EQUIPMENT HAS BEEN UPGRADED.	60.0	42.7	17.3	APR 81	FEB 82
1 81 7183	SEMI-AUTO COMP MANUF SYS F/HEL1 FUSELAGE SECONDARY STRUC ACTION IS BEING TAKEN TO CANCEL ALL FURTHER EFFORT AND CLOSE CONTRACT. THIS ACTION IS THE RESULT OF THE ACQUISITION COST ANALYSIS WHICH CONCLUDED THAT THE COMPOSITE DOOR APPLICATION WOULD NOT BE COST EFFECTIVE IN THIS SPECIFIC CASE.	141.0	110.5	23.0	DEC 81	JUN 82
1 81 7197	FABRICATION OF INTEGRAL ROTORS BY JOINING PROCUREMENT OF CASTINGS AND HUBS COMPLETE AND FABRICATION IN PROCESS.	200.0	140.0	55.0	OCT 81	DEC 81
1 82 7197	FABRICATION OF INTEGRAL ROTORS BY JOINING --- JUST FUNDED. NL 3D1 REQUIRED. ---	217.0				
1 80 7199	SURFACE HARDENING OF GEARS, BEARINGS AND SEALS BY LASERS THE CONTRACT IS BEING TERMINATED DUE TO LACK OF FUNDS FOR THE EXPANDED SCOPE OF WORK. A TECHNICAL REPORT IS BEING PREPARED WHICH WILL COVER WORK PERFORMED.	225.0	162.3	62.0	SEP 81	JAN 82
1 81 7200	COMPOSITE ENGINE INLET PARTICLE SEPARATOR DESIGN MODIFICATION, TOOLING/EQUIPMENT/PROCESS DEVELOPMENT. MATERIAL PROCUREMENT, AND SUBELEMENT TESTING HAVE BEEN COMPLETED. THREE SWIRL FRAMES HAVE BEEN FABRICATED AND ARE BEING TESTED.	500.0	347.5	92.0	OCT 81	FEB 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
1 80 7202	APPLICATION OF THERMOPLASTICS TO HELICOPTER SECONDARY STRUCS THE DESIGN OF THE DOOR WAS RE-EVALUATED, AND RESULTED IN A DESIGN CHANGE THAT EFFECTED THE STIFFENER AND INNER SKIN CONFIGURATION. ATTEMPTS TO FORM THE OUTER AND INNER SKINS WERE CONTINUED WITH PROMISING RESULTS.	225.0	180.0	45.0	OCT 81	JUN 82
1 81 7202	APPLICATION OF THERMOPLASTICS TO HELICOPTER SECONDARY STRUC OUTER SKINS FORMED WITH SQUARE WARP/FILL IN A CONSOLIDATED BLANK RESULTED IN MODERATE WRINKLING. INNER SKINS SHOWED LESS WRINKLING AND NO BRIDGING. THE NEXT ITERATION WILL INCORPORATE CHANGES WHICH ARE EXPECTED TO RESOLVE THE WRINKLING PROBLEMS.	100.0	13.0	82.0	OCT 81	JUN 82
1 77 7238	PRECISION FORGED ALUMINIUM POWDER METALLURGY ***** DELINQUENT STATUS REPORT *****	72.6	50.0	22.1	MAR 79	MAR 82
1 79 7238	PRECISION FORGED ALUMINIUM POWDER METALLURGY ***** DELINQUENT STATUS REPORT *****	398.7	350.0	30.9	APR 81	JUN 82
1 79 7241	HOT ISOSTATIC PRESSING OF TITANIUM CASTINGS PROBLEMS ENCOUNTERED IN CASTING SPEC. HAVE DELAYED THIS PHASE 2. AN ADDITIONAL \$41,213 WAS MADE AVAILABLE AND CONTRACT MODIFIED TO INCREASE COMPLETION AN ADDITIONAL 4 TO 27 MONTHS.	611.2	431.5	50.0	SEP 81	NOV 81
1 80 7241	HOT ISOSTATIC PRESSED TITANIUM AWAITING COMPLETION OF PHASE 2, 1797241, BEFORE BEGINNING THIS PROJECT.	100.0	75.0	11.9	JUL 81	JUL 82
1 80 7243	MACHINING OPERATIONS ON KEVLAR LAMINATED CONSTRUCTIONS ALL WORK HAS BEEN COMPLETED EXCEPT FOR THE FINAL TECHNICAL REPORT. A GOVERNMENT/INDUSTRY BRIEFING WAS HELD DECEMBER 1981. BOTH CONVENTIONAL AND UNCONVENTIONAL METHODS WERE EVALUATED. THE TECHNICAL REPORT WILL BE AVAILABLE JANUARY 1982.	135.0	120.0	15.0	DEC 81	JUN 82
1 81 7243	MACHINING OPERATIONS ON KEVLAR LAMINATED CONSTRUCTIONS ALL WORK HAS BEEN COMPLETED EXCEPT FOR THE FINAL TECHNICAL REPORT. A GOVERNMENT/INDUSTRY BRIEFING WAS HELD DECEMBER 1981. BOTH CONVENTIONAL AND UNCONVENTIONAL METHODS WERE EVALUATED AND RANKED. THE TECHNICAL REPORT WILL BE AVAILABLE JANUARY 1982.	100.0	65.0	35.0	OCT 82	JUN 82
1 79 7284	SUPERPLASTIC FORMING/DIFFUSION BONDING OF TITANIUM A HYDROGEN ANALYSIS OF THE FIREWALLS AFTER CHEMICAL MILLING INDICATED EXCESSIVE HYDROGEN PICK-UP. AN OUT-GASSING TREATMENT REDUCED THE HYDROGEN CONTENT TO ACCEPTABLE AMOUNTS WITHOUT DELETERIOUS EFFECT ON THE PARTS.	450.0	406.2	40.0	OCT 82	JAN 82

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 80 7285	CAST TITANIUM COMPRESSOR IMPELLERS CONTRACT MODIFICATIONS ARE TAKING PLACE.	270.0	229.0	25.3	SEP 81	UCT 81
1 81 7285	CAST TITANIUM COMPRESSOR IMPELLERS SOLAR TURBINES, CONTRACT IS BEING MODIFIED TO MEET QUALIFICATION REQUIREMENTS ESTABLISHED BY DRDAV-0.	209.0	140.0	20.0	OCT 81	UCT 81
1 82 7285	CAST TITANIUM COMPRESSOR IMPELLERS --- JUST FUNDED. NO 301 REQUIRED. ---	350.0				
1 79 7286	SUPERALLOY POWDER PRODUCTION FOR TURBINE COMPONENTS GE PROCURED POWDER BLENDS FROM SUBCONTRACTORS AND EVALUATED THE CLEANLINESS OF THEM AS ATOMIZED AND AFTER THE VARIOUS PROCESSING STEPS. PROBABLE SOURCES OF CONTAMINANTS HAVE BEEN IDENTIFIED.	538.0		143.0	FEB 81	FEB 82
1 80 7286	HIGH QUALITY SUPERALLOY POWDER PRODUCTION FOR TURB. COMP. IN-HOUSE FUNDS BEING USED FOR ENGINEERING SUPPORT EFFORT.	20.0		10.4	MAR 81	DEC 81
1 81 7288	MMT DETERMINATION OF OPTIMAL CURING CONDITIONS THICK LAMINATES WERE MONITORED DURING CURE FOR TEMPERATURE AND VOLTAGE (ION GRAPHING) AT THE SURFACE AND INTERNALLY. TEMPERATURE AT THE CENTER OF 2 220 PLY LAMINATE DURING STAGING WAS LOWER THAN AT THE SURFACE BUT WAS HIGHER DURING CURE.	158.0		101.0	AUG 82	AUG 82
1 81 7291	TITANIUM POWDER METAL COMPRESSOR IMPELLER FINAL SHAPE DEVELOPMENT IN PROGRESS.	240.0	200.0	30.0	JAN 83	JAN 83
1 82 7291	TITANIUM POWDER METAL COMPRESSOR IMPELLOR --- JUST FUNDED. NO 301 REQUIRED. ---	275.0				
1 79 7298	HIGH TEMPERATURE VACUUM CARBURIZING CONTRACT WORK IS PROJECTED TO START ON 15 JANUARY 1982.	25.0		25.0	MAY 80	JUN 82
1 80 7298	HIGH TEMPERATURE VACUUM CARBURIZING REPORT INCOMPLETE AND INACCURATE. RETURNED FOR REWRITE.	139.0	121.0	4.0	SEP 80	OEC 81
1 81 7298	HIGH TEMPERATURE VACUUM CARBURIZING REPORT INCOMPLETE AND INACCURATE. RETURNED FOR REWRITE.	75.0			OEC 81	DEC 81
1 81 7300	IMPROVED LOW CYCLE FATIGUE CAST ROTORS NO CONTRACT WORK HAS BEEN COMPLETED.	135.0	85.0	22.0	DEC 82	OEC 84
1 82 7300	IMPROVED LOW CYCLE FATIGUE CAST ROTORS --- JUST FUNDED. NO 301 REQUIRED. ---	820.0				

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PROJ NO.	TITLE + STATUS	AUTHORIZED RIZEO (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 79 7315	LOW COST MANUFACTURE OF POISE GIMBAL ***** DELINQUENT STATUS REPORT *****	302.0	199.3	25.0	JUL 81	JUN 82
1 81 7319	PRUD METH F/DIGITAL ADDRESSABLE MULTI-LEGENO DISPLAY SWITCH ***** DELINQUENT STATUS REPORT *****	50.0		5.0	OCT 83	JUN 82
1 81 7322	LOW COST TRANSPIRATION-COOLEO COMBUSTOR LINER THE RFQ IS EXPECTED TO BE ISSUED IN JAN 82.	125.0	85.0	40.0	SEP 81	SEP 81
1 82 7322	LOW-COST TRANSPIRATION-COOLEO COMBUSTOR LINER --- JUST FUNDED. NL 301 REQUIRED. ---	530.0				
1 80 7338	COMPOSITE TAIL SECTION DUE TO FUNDING AND SCHEDULE SLIPPAGES, THIS PROJECT HAS BEEN TERMINATED. A FINAL REPORT WILL BE SUBMITTED IN THE NEXT REPORTING PERIOD.	960.0	880.0	80.0	JUL 82	JUN 82
1 81 7338	COMPOSITE TAIL SECTION TECHNICAL REPORT FOR THIS PROJECT WILL BE SUBMITTED WITH FY80 FUNDS. THIS PROJECT WILL BE CLOSED OUT AT THAT TIME.	1,090.0		80.0		
1 80 7339	FILAMENT WOUND COMPOSITE FLEX8EAM TAIL ROTOR STATEMENT OF WORK WAS CHANGED TO MATCH FUNDING RESTRAINTS. THE CONTRACT WAS RENEGOTIATED TO A FIRM FIXED PRICE BASIS.	1,300.0	1,270.0	30.0	AUG 82	JUN 83
1 81 7339	FILAMENT WOUND COMPOSITE FLEX8EAM TAIL ROTOR THE CONTRACT WAS RENEGOTIATED TO A FIRM FIXED PRICE BASIS. A PROGRAM REVIEW WAS HELD. WORK WILL BE ACCOMPLISHED IN-HOUSE, DESIGN OF BONDING BETWEEN PITCH CASE AND SPAR HAS BEEN CHANGED, AND TESTS WILL BE DELAYED. FABRICATION WORK WAS INITIATED.	1,130.0	1,053.0	44.0	FEB 83	JUN 83
1 81 7340	COMPOSITE MAIN RUTER BLADE THE CONTRACT WAS RENEGOTIATED TO A FFP BASIS. ROOT FATIGUE TESTING WAS CONTINUED ON A MODIFIED BLADE AND WAS COMPLETED SUCCESSFULLY. 7 OF 11 BLADES REQUIRED HAVE BEEN FABRICATED.	1,094.0	979.9	114.1	NOV 83	NOV 82
1 81 7341	STRUCTURAL COMPOSITES FABRICATION GUIDE A GOVERNMENT/INDUSTRY BRIEFING WAS CONDUCTED. PRESENTATIONS ON THE UTILITY OF THE FABRICATION COST ESTIMATING TECHNIQUES WERE CONDUCTED AT SEVERAL GOVERNMENT INSTALLATIONS. THIRD EDITION DRAFT HAS BEEN RELEASED FOR REVIEW.	73.0	50.0	6.7	JAN 82	JAN 82
1 80 7342	PULTRUSION OF HOWENYCOMB SANDWICH PANELS SELECTION OF MATERIALS AND THE DESIGN OF THE FLOOR BEAM WERE COMPLETED.	85.0	73.0	12.0	SEP 82	SEP 82

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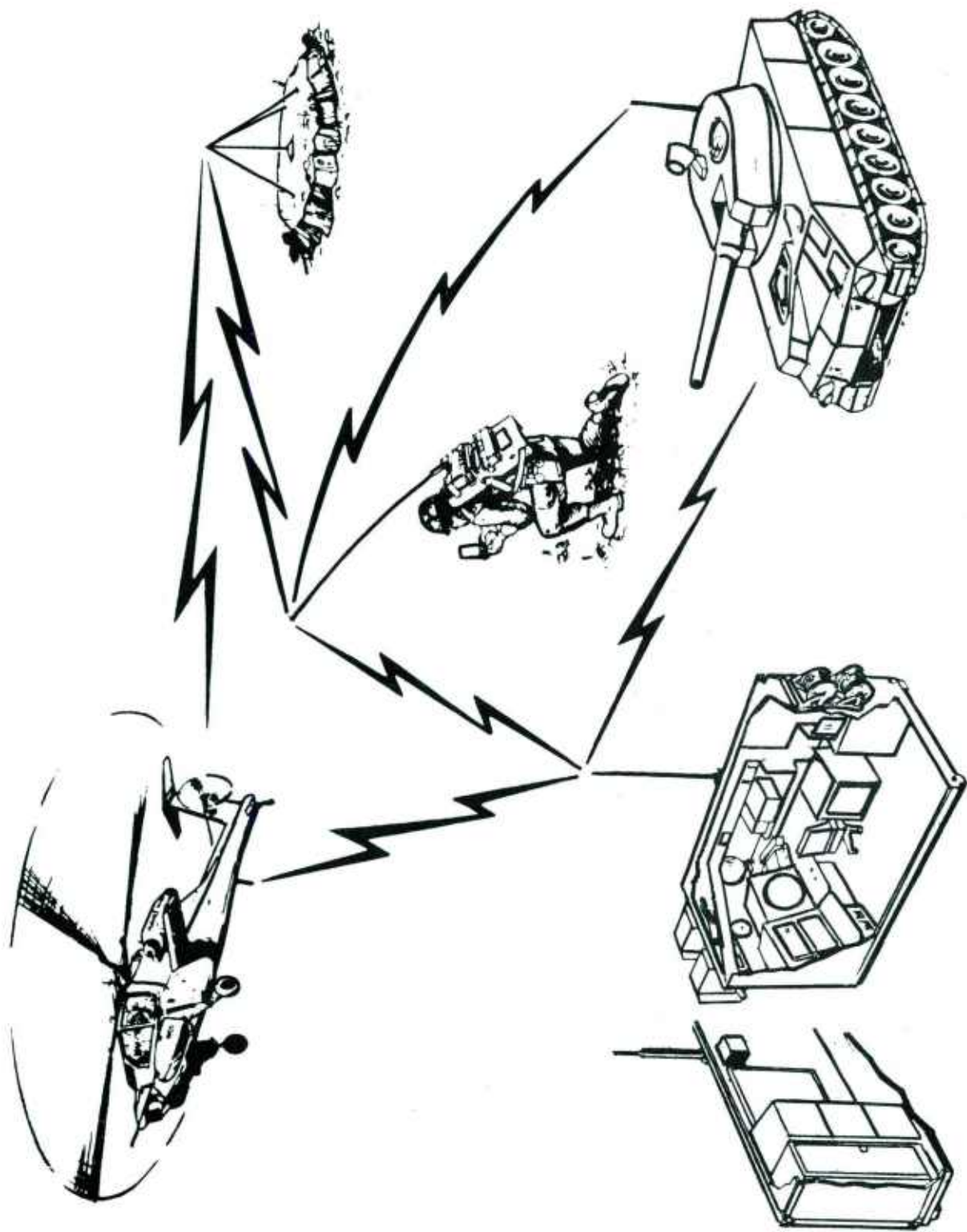
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 81 7342	PULTRUSION OF HONEYCOMB SANDWICH STRUCTURES THE DESIGN AND THE SELECTION OF MATERIALS FOR THE FLOOR BEAM HAVE BEEN COMPLETED.	200.0	157.0	25.2	JUN 83	JUN 83
1 81 7351	COMPOSITE SHAFTING FOR TURBINE ENGINES TITANIUM AND STEEL TUBES NECESSARY FOR MILESTONES FOUR AND FIVE HAVE BEEN FABRICATED. A TOOL NEEDED FOR MONOLAYER ROLLING WAS LOST, WHICH NECESSITATED THE FABRICATION OF A REPLACEMENT. THIS AND OTHER PREFORM PROBLEMS HAVE RESULTED IN A 7 MO. DELAY.	300.0	250.0	50.0	OCT 81	JUN 82
1 82 7351	COMPOSITE SHAFTING FOR TURBINE ENGINES --- JUST FUNDED. NO 301 REQUIRED. ---	325.0				
1 80 7370	RING WRAP COMPOSITES ***** DELINQUENT STATUS REPORT *****	70.0				
1 79 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) NEARLY ALL THE WORK ON THIS PORTION, VIM INSPECTION MODULE, HAS BEEN COMPLETED. A GOVERNMENT/CONTRACTOR DEMONSTRATION WAS CONDUCTED 23 NOV 1981. A FINAL GOV/INDUSTRY BRIEFING IS SCHEDULED TO BE CONDUCTED IN JUNE 1982.	212.5		200.0	MAR 82	JUN 82
1 80 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) SEE PROJECT 1 81 7371 FOR STATUS.	100.0		75.4	DEC 84	SEP 84
1 81 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) WORK IS PROGRESSING ON SCHEDULE WITH BOTH THE IRIM AND XIM. THE IRIM IS NEARING COMPLETION. THE XIM X-RAY DETECTOR DESIGN HAS BEEN COMPLETED AND IS IN THE PROCESS OF BEING ASSEMBLED. XIM DATA ACQUISITION SYSTEM MAY BE DELAYED DUE TO CONTRACT PROBLEMS.	357.0		26.6	DEC 84	SEP 84
1 82 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) --- JUST FUNDED. NO 301 REQUIRED. ---	500.0				
1 81 7376	AUTO INSPECT AND PRECISION GRINDING OF SB GEARS ***** DELINQUENT STATUS REPORT *****	215.0				
1 82 7376	AUTO INSPECT AND PRECISION GRINDING OF SB GEARS --- JUST FUNDED. NO 301 REQUIRED. ---	499.0				
1 81 7382	LOW COST COMPOSITE MAIN ROTOR BLADE FOR THE UH-60A WORK ON TASK 2, SPECIAL TOOL DESIGN AND FABRICATION, OF PHASE 1, MANUFACTURING PROCESS DEVELOPMENT, HAS BEEN INITIATED. THE EXPECTED COMPLETION DATE FOR THIS TASK IS DURING THE SECOND QUARTER OF FY 82.	900.0	830.0	60.0	SEP 82	SEP 82

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 80 7391	BEARING DIAGNOSTIC AND RECLAMATION TECHNIQUES ***** DELINQUENT STATUS REPORT *****	100.0	100.0		MAR 81	JUN 82
1 80 7412	INFRARED DETECTOR FOR LASER WARNING RECEIVER PERKIN-ELMER CORP. ELECTRO OPTICS DIVISION IS STILL NEGOTIATING A CPFF CONTRACT FOR DEVELOPING METHODS FOR MAKING AND TESTING INTERMODULATED INFRARED DETECTORS. A NEW PRODUCER OF IN-AS DETECTORS FOR THE AN/AVR-2 LASER WARNING RECEIVER BEING SOUGHT.	100.0	90.0	2.7	APR 83	APR 83
1 81 7412	INFRARED DETECTOR FOR LASER WARNING RECEIVER A CONTRACT IS BEING NEGOTIATED WITH PERKIN ELMER ELECTRO-OPTIC DIVISION AS A FOLLOW-ON TO THE ABOVE CONTRACT. EXTENSIVE NEGOTIATION HAS RESULTED IN A LONG DELAY IN AWARD. WILL DEVELOP PRODUCTION CAPABILITY FOR INFRARED LASER DETECTORS.	650.1	615.0		APR 83	APR 83
1 82 7412	INFRARED DETECTOR FOR LASER WARNING RECEIVER --- JUST FUNDED. NL 301 REQUIRED. ---	250.0				

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
7 81 8190	MMT IMPROVED BLISK-IMPELLER CUTTER LIFE ***** DELINQUENT STATUS REPORT *****	225.0			SEP 82	SEP 82
7 82 819D	IMPRVO CUTTER LIFE, T-700 COMP BLISK/IMPELLER MILLING OPER --- JUST FUNDED. NO 301 REQUIRED. ---	486.0				
7 81 8192	TURBINE ENGINE PRODUCTIVITY IMPROVEMENT ***** DELINQUENT STATUS REPORT *****	925.0			MAR 82	JUN 82



COMMUNICATIONS & ELECTRONICS COMMAND (CECOM)

COMMUNICATIONS + ELECTRONICS COMMAND

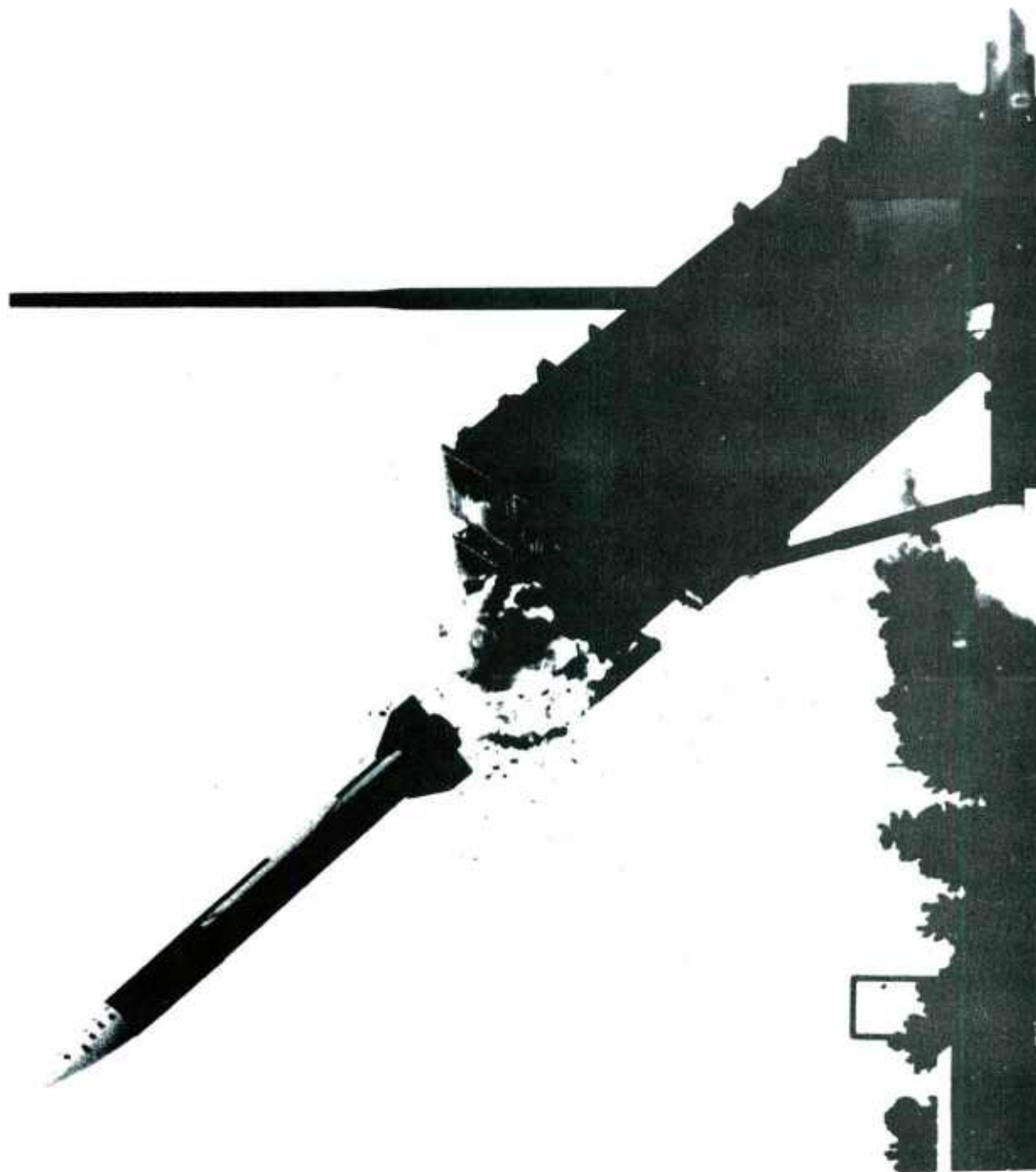
CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T (\$) A L L O C A T E D	* * F U N D I N G (\$) E X P E N D E D	* * I N H O U S E (\$) R E M A I N I N G	* * F U N D I N G (\$) E X P E N D E D
78	1	316,500	292,500	73,600 (25%)	24,000	24,000 (100%)
79	2	1,553,800	1,440,800	1,215,400 (84%)	113,000	71,500 (63%)
80	2	825,000	683,100	48,800 (7%)	141,900	37,500 (26%)
81	4	3,230,000	0	0 (0%)	3,230,000	18,000 (0%)
82	0	0	0	0 (0%)	0	0 (0%)
TOTAL	9	5,925,300	2,416,400	1,337,800 (55%)	3,508,900	151,000 (4%)

AUTHORIZED FUNDING CONTRACT ALLLOCATED 41% INHOUSE REMAINING 59%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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PROJ NO.	TITLE + STATUS	AUTHU- RIZED (\$DDD)	CONTRACT VALUES (\$DDD)	EXPENDED LABOR AND MATERIAL (\$DDD)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
F 80 3036	CAD/CAM OF SPECIAL ELECTRONIC CIRCUITS ***** DELINQUENT STATUS REPORT *****	20.0		13.5	AUG 81	JUN 82
F 81 3050	EPITAXY OF III-V SEMICONDUCTOR PHOTODETECTORS THE PROCUREMENT PACKAGE WAS REVISED TO INCLUDE REQUIREMENTS FOR ARMY'S LONG HAUL FIBER OPTIC CABLE SYSTEM. REVISED BID PACKAGE IS COMPLETE. SEVERAL FIRMS WILL BE SOLICITED.	670.0			DEC 83	OCT 84
F 80 3054	PRODUCTION METHODS FOR MULTI-LAYER FULDED CIRCUITS HUGHES IS SELECTING OPTIMUM RIGID POLYIMIDE + EPOXY GLASS, + FLEXIBLE KAPTON MATERIAL COMBINATIONS FOR MULTILAYER MULTIFOLDING RIGID-FLEX CIRCUITS. VARIOUS ADHESIVES ARE UNDER INVESTIGATION. PROCESS SPECS + AUTOMATED TEST PROCEDURES ARE SCHEDULED.	805.0	683.1	24.0	SEP 82	DEC 82
F 81 3056	ELECTROLUMINESCENT NUMERIC MODULES CONTRACT NOT YET AWARDED. PROJECT WILL AUTOMATE MATERIAL DEPOSITION PROCESSES FOR ELECTROLUMINESCENT THIN FILM NUMERIC DISPLAY MODULES. TECHNIQUES FOR CIRCUIT BONDING, CLEANING, HERMETIC SEALING + PACKAGING WILL BE INTRODUCED. BID RESPONSE DUE FEB 82	777.0			DEC 82	FEB 84
F 81 3057	HIGH STABILITY VIBRATION RESISTANT QUARTZ CRYSTALS CONTRACT BEING NEGOTIATED. FREQUENCY ELECTRONICS IS BEING FUNDED AS A COMMERCIAL SOURCE FOR 5 + 10 MHZ SC-CUT QUARTZ CRYSTALS. TASKS INCLUDE CUTTING, LAPPING, ULTRA-VIOLET CLEANING, BAKING + PLATING. EACH CRYSTAL WILL BE SEALED IN A CERAMIC FLATPACK.	1,057.0		8.0	JUL 83	JUL 83
F 79 9835	INTEGRATED THIN FILM TRANSISTOR DISPLAY AERJET IS REARRANGING UPPER POLYIMIDE LAYER TO STOP STRESS + ELECTRICALLY ISULATE COMPONENTS + INTERCONNECTIONS. FILM STRUCTURE IN ALL 4 STACKS IS BEING REVISED FOR OPTIMUM PERFORMANCE. DISPLAYS WILL BE FABRICATED TO DEMONSTRATE RESULTS.	998.8	943.8	13.5	AUG 81	JUN 82
F 81 9851	TACTICAL MINIATURE CRYSTAL OSCILLATORS SCOPE OF WORK WAS REDUCED TO DELETE AUTOMATED IN-PROCESS TESTS. EFFORT WAS RESOLICITED IN JAN 82. PROJECT WILL ESTABLISH HIGH VACUUM SEALING, METALLIZATION, BRAZING, BONDING, BAKING + CLEANING FOR CERAMIC FLATPACK ENCLOSED QUARTZ CRYSTAL OSCILLATORS	726.0		10.0	MAR 84	JUL 84
2 78 9898	RUGGEDIZED TACTICAL FIBER OPTIC CABLES NEW CONFIRMATORY SAMPLES WERE FABRICATED AND TESTED. ALL CABLES MET SPECS. SHIPMENT WILL BE IN JANUARY.	316.5	292.5	24.0	NOV 79	AUG 82
F 79 9938	THREE COLOR LIGHT EMITTING DIODE DISPLAY UNIT THE DUE ATTACH MACHINE, WIRE BUNDER AND LED PANEL EXERCISER ARE COMPLETED. THE QA PLAN HAS BEEN APPROVED AND SOME PRODUCTIBILITY IMPROVEMENTS HAVE BEEN INCORPORATED. FABRICATION OF THE LED PANEL ACCEPTANCE TEST SYSTEM IS IN PROGRESS.	555.0	497.0	58.0	SEP 81	APR 82



MISSILE COMMAND
(MICOM)

M I S S I L E C O M M A N D

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
78	6	1,461,900	741,800	660,800 (89%)	720,100	373,100 (51%)
79	11	4,544,700	3,465,700	3,081,900 (88%)	1,079,000	809,100 (74%)
80	19	8,448,400	6,579,300	3,113,500 (47%)	1,869,100	647,700 (34%)
81	21	11,619,000	4,197,300	1,209,500 (28%)	7,421,700	116,000 (1%)
82	1	150,000	0	0 (0%)	150,000	0 (0%)
TOTAL	58	26,224,000	14,984,100	8,065,700 (53%)	11,239,900	1,945,900 (17%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 57% INHOUSE REMAINING 42%

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 80 1018	IMPROVED MFG. PROCESSES FOR DRY TUNED ACCELEROMETERS (CAM) FABRICATION OF ALL ACCELEROMETER PARTS OTHER THAN THE SUSPENSIONS WAS COMPLETED. DIFFICULTIES WERE ENCOUNTERED IN PROCURING A SUITABLE ELECTRODE FOR THE SUSPENSION, HOWEVER A SUITABLE METHOD TO FABRICATE THE TOOLING WAS DEVELOPED.	228.0	218.0		MAR 81	APR 82
3 81 1021	CPPP MACHINED CYLINDRICAL PARTS (CAM) ***** DELINQUENT STATUS REPORT *****	234.0	184.4		JUL 82	AUG 82
R 80 1023	DIGITAL FAULT ISOLATION F/HYBRID MICROELECTRONIC MODULES HUGHES MODIFIED PRINTED CIRCUIT BOARD DIGITAL FAULT ISOLATION EQUIPMENT FOR TESTING HYBRID CIRCUITS. ACOUSTIC TOUCH DOWN PROBE + TEST ADAPTOR WERE ADDED. LIGHTER CAMERA IS BEING EVALUATED. SOFTWARE IN FINAL TEST. SYSTEM WILL BE USED AT HUGHES.	300.0	292.0	6.0	OCT 81	DEC 82
R 80 1024	MMT RADIO FREQUENCY STRIPLINE HYBRID COMPONENTS ***** DELINQUENT STATUS REPORT *****	745.0	658.7	82.0	AUG 82	SEP 82
R 80 1026	LOW COST MANUF TECH F/THE HIGH PROD OF MISSILE VANES ***** DELINQUENT STATUS REPORT *****	350.0	289.4		JUN 81	JUN 82
3 81 1026	PRODUCTION OF LOW COST MISSILE VANES ***** DELINQUENT STATUS REPORT *****	380.0			AUG 81	
R 79 1041	LSI FABRICATION METHODOLOGY IMPROVEMENT ***** DELINQUENT STATUS REPORT *****	1,000.0	967.0	3.0	SEP 80	JUN 82
3 81 1042	PRODUCTION OF COMPOSITE RADOME STRUCTURES ***** DELINQUENT STATUS REPORT *****	755.0				
3 81 1050	LOW COST BRAIDED ROCKET MOTOR COMPONENTS PHASE 2, SELECTION AND OPTIMIZATION OF MATERIAL AND FABRICATION OF THE MANDREL, WAS COMPLETED. PHASE 3, AUTOMATION OF FIBERGLASS AND RESIN BRAIDING, WAS ALSO COMPLETED. PHASE 4 WAS INITIATED.	430.0	386.9	22.0	MAR 82	MAR 82
3 81 1051	REPLACEMENT OF ASBESTOS IN ROCKET MOTOR INSULATIONS REQUEST FOR PROPOSAL IS BEING PREPARED.	475.0				
R 80 1071	HYBRID INTEGRATED CAD AND MANUFACTURING (HICADAM) ***** DELINQUENT STATUS REPORT *****	100.0		3.7	SEP 81	JUN 82
3 81 1072	MULTIPLE HIGH RELIABILITY/LOW VOLUME LSI MFG ***** DELINQUENT STATUS REPORT *****	1,540.0			MAR 83	MAR 83
3 81 1073	REAL TIME ULTRASONIC IMAGING AN INDUSTRY SURVEY FOR REAL TIME ULTRASONIC IMAGING SYSTEM HAS BEEN COMPLETED. THE BREAOBOARD SYSTEM IS BEING MODIFIED TO COMPLETE TASK 1. THE IMPLEMENTATION PLAN + PROGRAM SCHEDULE HAVE BEEN FINALIZED. THE TEST SPECIMENS FOR OEMD HAVE BEEN SELECTED.	200.0	189.6		OCT 82	OCT 82

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PKOJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 80 1D75	ELECTRONICS COMPUTER AIDED MANUFACTURING (ECAM) BATTELLE COMPLETED A PLAN FOR THE ENTIRE PROJECT, TRAINED PERSONNEL TO USE IDEF METHODOLOGY, DESCRIBED DESIGN, MANUFACTURE, AND TEST OF EACH COMMODITY, AND STARTED TO DESCRIBE FUTURE PRACTICE. BATTELLE MADE SEVERAL PRESENTATIONS ON THE CONTRACT.	2,285.0	2,101.4	75.0	SEP 81	DEC 82
3 81 1D75	ELECTRONICS COMPUTER AIDED MANUFACTURING (ECAM) ***** DELINQUENT STATUS REPORT *****	1,685.0	1,634.0	55.0	SEP 81	JUN 82
3 81 1D86	COBALT REPLACEMENT IN MARAGING STEEL F/ROCKET MOTOR COMP PROCESS PROCUREMENT PACKAGE AND CONTRACT AWARD WAS COMPLETED 21 AUGUST 81. FURGING OPTIMIZATION ANALYSIS IS INITIATED AND PROGRAM IS ON SCHEDULE.	300.0	274.4	7.0	APR 82	APR 82
3 81 1D88	OPTIMIZED MANDREL FAB AND UTILIZATION F/COMP MOTOR CASES ***** DELINQUENT STATUS REPORT *****	700.0				
3 81 11D8	RF AND LASER HARDENING OF MISSILE DOMES ***** DELINQUENT STATUS REPORT *****	440.0				
3 81 11D9	ROBOTIZED WIRE HARNESS ASSEMBLY SYSTEM ALL TECHNICAL WORK WAS COMPLETED FOR PHASE ONE, HOWEVER, THE FINAL REPORT HAS NOT BEEN RECEIVED.	114.0	114.0		NOV 81	NOV 81
3 81 1121	MISSILE MFG PRODUCTIVITY IMPROVEMENT KOCKWELL INTERNATIONAL AND MARTIN MARIETTA WILL ANALYZE ITS MANUFACTURING PLANNING AND FOCUS ON PRODUCTIVITY IMPROVEMENT TASKS WITH SAVINGS POTENTIAL.	1,000.0	1,000.0		JUN 82	JUN 82
3 80 3115	ENGINEERING FOR METROLOGY AND CALIBRATION ***** DELINQUENT STATUS REPORT *****	747.0	420.0	207.0	DEC 81	JUN 82
3 81 3115	ENGINEERING FOR METROLOGY AND CALIBRATION ***** DELINQUENT STATUS REPORT *****	661.0				
3 82 3115	ENGINEERING FOR METROLOGY AND CALIBRATION --- JUST FUNDED. NE 301 REQUIRED. ---	150.0				
R 78 3133	LITHIUM FERRITE PHASE SHIFTER FOR PHASED ARRAY RADAR ***** DELINQUENT STATUS REPORT *****	325.0	195.5		SEP 79	JUN 82
R 80 3139	PROD METHODS F/MILLIMETER SEEK F/TERMINAL HOMING APPLICATION ***** DELINQUENT STATUS REPORT *****	393.4	393.4		MAY 82	JUN 82
3 81 3139	MILLIMETER SEEKERS FOR TERMINAL HOMING (TH) ***** DELINQUENT STATUS REPORT *****	750.0		5.0	SEP 82	SEP 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

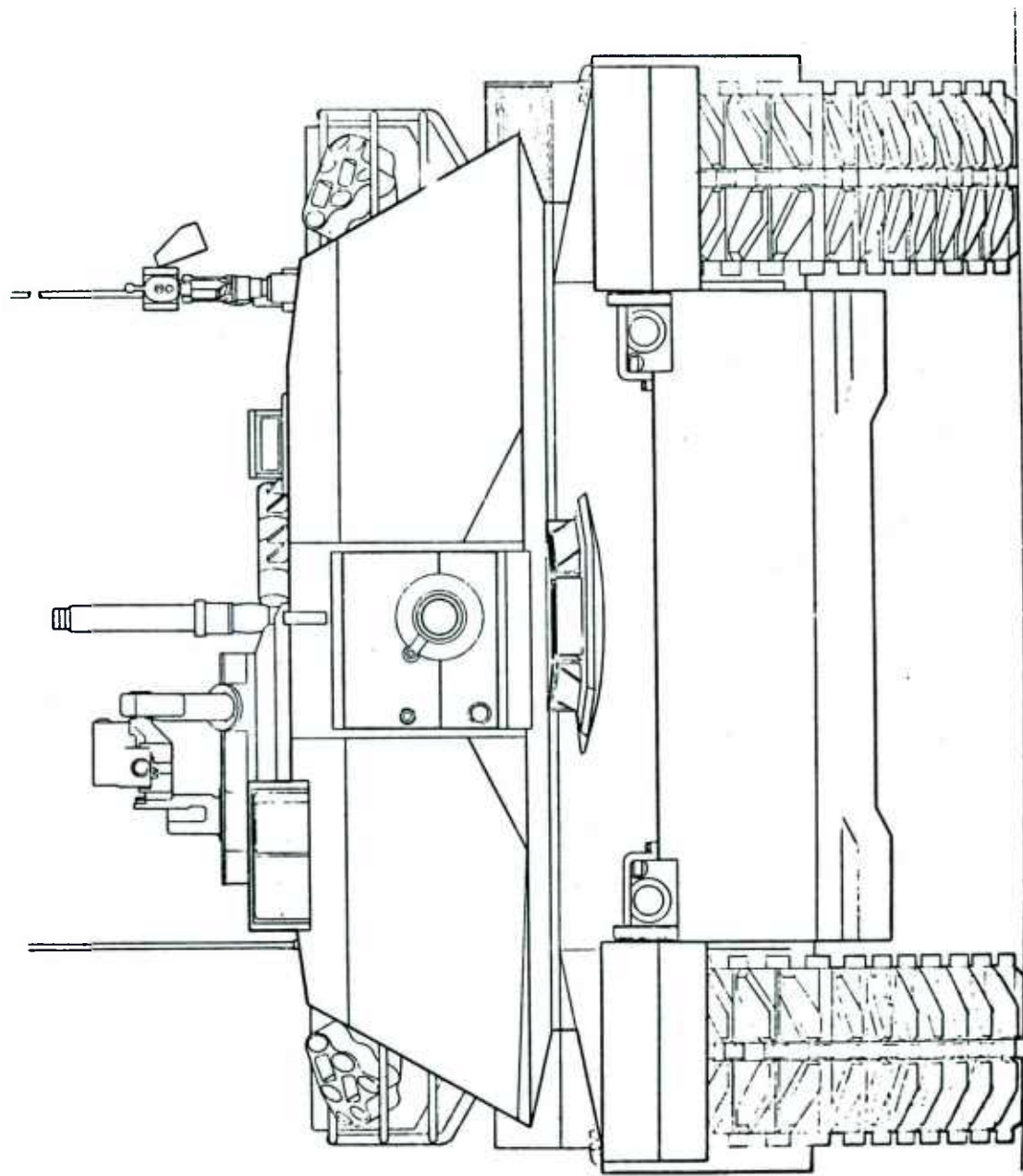
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 80 3142	PRODUCTION METHODS F/LOW COST PAPER MOTOR COMPONENTS PH 3 INITIATED TO MAKE A 5-25 IN DIAMETER ROCKET MOTOR. SOME DELAY IN SUBCONTRACTOR DELIVERY OF ROCKET MOTOR MATERIALS. THIS WILL NOT EFFECT THE OVERALL TECHNICAL OUTPUT OF PROGRAM. THE PAPER MOTORS WILL BE DELIVERED DURING THE NEXT REPORTING PERIOD.	200.0	179.8	18.0	JUN 82	MAY 82
R 79 3160	CLEANLINESS + PROCESS CRITERIA FOR CIRCUIT BOARDS MARTIN-MARIETTA HAS COMPLETED THIS PROJECT BUT FINAL TECH REPORT IS DELINQUENT. WITH THE PROCESS DEVELOPED, CONTAMINANTS IN THE PARTS PER BILLION QUANTITY IN PRINTED WIRING BOARDS CAN BE MEASURED.	279.7	244.6	35.0	MAR 80	DEC 81
R 78 3165	PROD PROCESS + TECHNIQUES FOR SEALING HYBRID MIC-CIR PACK ***** DELINQUENT STATUS REPORT *****	220.0	211.0	9.0	NOV 79	JUN 82
R 79 3217	AUTOMATED PRODUCTION METHODS FOR TRAVELING WAVE TUBES ***** DELINQUENT STATUS REPORT *****	685.0	620.0	65.0	JUL 80	JUN 82
R 80 3217	AUTOMATED PRODUCTION METHODS FOR TRAVELING WAVE TUBES ***** DELINQUENT STATUS REPORT *****	335.0				
R 78 3218	REDUCE THE FINISHING COST OF FUSED SILICA RADOMES ***** DELINQUENT STATUS REPORT *****	300.0	12.7	281.7	OCT 79	JUN 82
R 80 3219	AUTOMATIC POLYMER ATTACHMENT PRODUCTION METHODS ***** DELINQUENT STATUS REPORT *****	200.0		5.0	JAN 81	AUG 83
R 79 3253	HIGH CURRENT DENSITY CATHODES ***** DELINQUENT STATUS REPORT *****	175.0	126.3	48.0	JUN 80	JUN 82
R 80 3263	PRINTED WIRE BOARDS UTILIZING LEADLESS COMPONENTS ***** DELINQUENT STATUS REPORT *****	250.0	127.0	9.5	JAN 81	JUN 82
3 81 3263	PWB'S UTILIZING LEADLESS COMPONENTS THE DEVELOPMENT OF SPECIFICATIONS AND PROCESSES FOR THE FABRICATION OF PWB UTILIZING LEADLESS COMPONENTS CANNOT PROCEED UNTIL THE CONTRACT IS LET. THE PROJECT SHOULD RESOLVE THE MECHANICAL CONNECTION FAILURE OF LEADLESS COMPONENTS IN MILITARY ENV.	230.0		4.0		
R 79 3268	AUTOMATIC CONTROL OF PLATING (CAM) ***** DELINQUENT STATUS REPORT *****	450.0	209.5	240.5	SEP 80	JUN 82
R 79 3280	ENGR ANALYSIS OF MFG PARAMETERS FOR THERMAL BATTERIES ***** DELINQUENT STATUS REPORT *****	145.0			SEP 80	JUN 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
R 80 3294	PRODUCTION PROCESSES FOR ROTARY ROLL FORMING THE TECHNICAL CONTRACTUAL EFFORT FOR THIS PROJECT IS COMPLETE. THE PROJECT TECHNICAL REPORT IS BEING PREPARED.	300.0	227.5	65.0	DEC 81	MAR 82
3 81 3294	PRODUCTION PROCESS FOR ROTARY ROLL FORMING THE TECHNICAL EFFORT FOR THIS PROJECT HAS BEEN INITIATED AND IS A FOLLOW-ON TO PROJECT NO. R803294.	175.0	132.4	18.0	JUN 82	DEC 82
R 79 3372	MANUFACTURING METHODS FOR MAGNETIC MATERIALS ***** DELINQUENT STATUS REPORT *****	410.0	362.0	48.0	OCT 79	JUN 82
R 78 3376	TESTING ELECTRO-OPTICAL COMPONENTS AND SUBSYSTEMS ***** DELINQUENT STATUS REPORT *****	205.0	175.0	30.0	DEC 80	JUN 82
R 80 3376	TESTING OF ELECTRO-OPTICAL COMPONENTS AND SUBSYSTEMS ***** DELINQUENT STATUS REPORT *****	475.0	475.0		JUN 81	JUN 82
R 79 3381	LOW COST, IMPROVED 2-D HEAT SHIELDS ***** DELINQUENT STATUS REPORT *****	500.0	476.1	23.9	MAR 80	JUN 82
R 80 3396	INJECTION MOLDING OF LOW COST-ONE PIECE NOZZLES ALL TECHNICAL WORK HAS BEEN COMPLETED. REMAINING WORK CONSISTS OF TESTING COMPONENTS AND WRITING THE TECHNICAL REPORT.	180.0	158.5	19.0	JUN 81	JUN 82
R 80 3411	MFG OF NON PLANAR PRINTED CIRCUIT BOARDS A CONTRACT WAS AWARDED TO GENERAL DYNAMICS TO DEVELOP CYLINDRICAL CIRCUIT BOARDS AND AN ANTENNA. CURRENTLY 80TH TASKS ARE IN THE MATERIALS INVESTIGATION STAGE. SOME ARTWORK INVESTIGATIONS ARE IN PROGRESS FOR THE CIRCUIT BOARDS.	220.0	198.0		FEB 81	JUN 83
3 81 3423	LOW COST/HIGH PERFORMANCE CARBON-CARBON NOZZLES A CONTRACT WAS PLACED WITH FIBER MATERIALS INC. PHASES 1 AND 2, CARBON-CARBON PREFORM DESIGN AND FABRICATION FOR DIFFERENT MATERIAL DENSITIES AND TWO NOZZLE THROAT DIAMETERS, AND BILLET DENSIFICATION, WERE INITIATED.	300.0	281.6	5.0	JUN 82	JUN 82
R 80 3435	SIMPLIFICATION OF HIGH-POWER THICK FILM HYBRIDS ***** DELINQUENT STATUS REPORT *****	290.0	187.9	84.2	SEP 83	DEC 82
R 80 3436	CERAMIC CIRCUIT BOARDS + LARGE AREA HYBRIDS MARTIN MARETTA- THE INDUSTRY DEMONSTRATION WAS HELD AND A FINAL REPORT ACCEPTED. GENERAL DYNAMICS- BEHIND SCHEDULE EXPECT COMPLETE BY END OF DEC 81. EFFORTS HAVE BEEN STARTED TO FIND APPLICATIONS FOR THE TECHNOLOGY DEVELOPED UNDER THESE PROJECTS.	450.0	406.7	43.3	DEC 81	MAR 82

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 79 3438	DELIDING, PARALLEL SEAM SEALED HYBRIO MICROELECT PACKAGES WESTINGHOUSE COMPLETED THE PROJECT WHICH DEMONSTRATES DELIDING AND RESEALING OF HYBRIO PACKAGES CAN BE DONE IN ACCORDANCE WITH MIL-STD-883. DELIDING IS DONE BY REMOVING THE WELD WITH ONE PASS OF A SAW. THE FINAL REPORT IS DELINQUENT.	200.0	84.2	115.7	OCT 79	DEC 81
R 79 3441	APPLICATION OF HIGH ENERGY LASER MANUFACTURING PROCESSES ***** DELINQUENT STATUS REPORT *****	400.0	200.0	200.0	SEP 79	JUN 82
R 79 3445	PRECISION MACHINING OF OPTICAL COMPONENT ***** DELINQUENT STATUS REPORT *****	300.0	176.0	30.0	OCT 81	JUN 82
R 80 3445	PRECISION MACHINING OF OPTICAL COMPONENTS ***** DELINQUENT STATUS REPORT *****	400.0	246.0	30.0	JUN 81	JUN 82
3 81 3445	PRECISION MACHINING OF OPTICAL COMPONENTS ***** DELINQUENT STATUS REPORT *****	625.0			JUN 82	JUN 82
3 81 3447	RECOVERY OF CARBURANES FROM WASTE PROPELLANT NONE. AN RFQ WILL BE READY IN THE SECOND QUARTER OF FY82.	375.0			JUN 84	JUN 84
3 81 3449	ALTERNATE PROCESS FOR IPOI ***** DELINQUENT STATUS REPORT *****	250.0				
R 78 3453	GROUND LASER LOCATOR DESIGNATOR PRODUCTION IMPROVEMENTS ***** DELINQUENT STATUS REPORT *****	211.9			DEC 80	JUN 82
R 78 3454	LO CUST - HI VOLUME RADIOGRAPHIC INSPECTION ***** DELINQUENT STATUS REPORT *****	200.0	147.6	52.4	FEB 80	JUN 82



**TANK-AUTOMOTIVE COMMAND
(TACOM)**

TANK - AUTOMOTIVE COMMAND

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T (\$) A L L O C A T E D	* * F U N D I N G (\$) E X P E N D E D	* * I N H O U S E (\$) R E M A I N I N G	* * F U N D I N G (\$) E X P E N D E D
77	1	500,000	356,600	302,400 (84%)	143,400	26,600 (18%)
77	0	0	0	0 (0%)	0	0 (0%)
78	5	4,156,500	3,331,100	2,132,100 (64%)	825,400	763,300 (92%)
79	10	3,340,700	2,036,100	1,132,900 (55%)	1,304,600	737,000 (56%)
80	9	2,988,600	2,781,900	2,167,400 (77%)	206,700	152,000 (73%)
81	21	7,641,000	1,202,900	240,000 (19%)	6,438,100	101,300 (1%)
82	12	3,678,000	0	0 (0%)	3,678,000	0 (0%)
TOTAL	58	22,304,800	9,708,600	5,974,800 (61%)	12,596,200	1,780,200 (14%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 44% INHOUSE REMAINING 56%

S U M M A R Y P R O J E C T S T A T U S R E P O R T
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 78 4264	TRACK INSERTS AND FILLERS FOR TRACK RUBBER PADS ***** DELINQUENT STATUS REPORT *****	520.0	233.0	228.3	JAN 81	JUN 82
T 80 4392	JOINING DISSIMILAR METALS ***** DELINQUENT STATUS REPORT *****	23.0		23.0	MAY 81	JUN 82
4 7T 4568	TECH DATA/CONFIGURATION MANAGEMENT SYSTEM (TD/CMS) ***** DELINQUENT STATUS REPORT *****	500.0	356.6	26.6	JUN 79	JUN 82
T 79 4575	LASER WELDING TECHNIQUES FOR MILITARY VEHICLES ***** DELINQUENT STATUS REPORT *****	450.0	280.0	63.0	JUL 81	JUN 82
T 79 4586	IMPROVED LARGE ARMOR STEEL CASTINGS- PHASE 1 ***** DELINQUENT STATUS REPORT *****	663.3	343.4	237.0	OCT 80	JUN 82
T 79 5002	FABRICATING TORSION SPRINGS FROM HIGH STRENGTH STEELS ***** DELINQUENT STATUS REPORT *****	150.0	89.2	48.6	FEB 81	JUN 82
T 82 5002	MMT FABRICATION OF TORSION BARS FROM HIGH STRENGTH STEEL --- JUST FUNDED. NO 301 REQUIRED. ---	15.0				
T 78 5014	IMPROVED FOUNDRY CASTINGS UTILIZING CAM ***** DELINQUENT STATUS REPORT *****	415.0	195.5	219.5	JAN 81	JUN 82
T 81 5014	IMPROVED FOUNDRY CASTINGS UTILIZING CAM ***** DELINQUENT STATUS REPORT *****	50.0		15.0	NOV 81	JUN 82
T 82 5014	FOUNDRY CASTING PROCESSES USING FLUID FLOW + THERM ANALYS --- JUST FUNDED. NO 301 REQUIRED. ---	50.0				
T 81 5019	STORAGE BATTERY LOW MAINTENANCE ***** DELINQUENT STATUS REPORT *****	160.0		5.0	JAN 84	JAN 84
T 82 5019	STORAGE BATTERY LOW MAINTENANCE --- JUST FUNDED. NO 301 REQUIRED. ---	40.0				
T 79 5024	GEAR DESIGN MFG UTILIZING COMPUTER TECHNOLOGY, CAM-PH2 ***** DELINQUENT STATUS REPORT *****	345.0	274.4	52.0	JUN 80	JUN 82
T 82 5024	GEAR DIE DESIGN AND MFG UTILIZING COMPUTER TECHNOLOGY (CAM) --- JUST FUNDED. NO 301 REQUIRED. ---	50.0				
T 80 5045	SPALL SUPPRESSIVE ARMOR FOR COMBAT VEHICLES (PHASE II) ***** DELINQUENT STATUS REPORT *****	86.0	56.0	30.0	NOV 81	JUN 82

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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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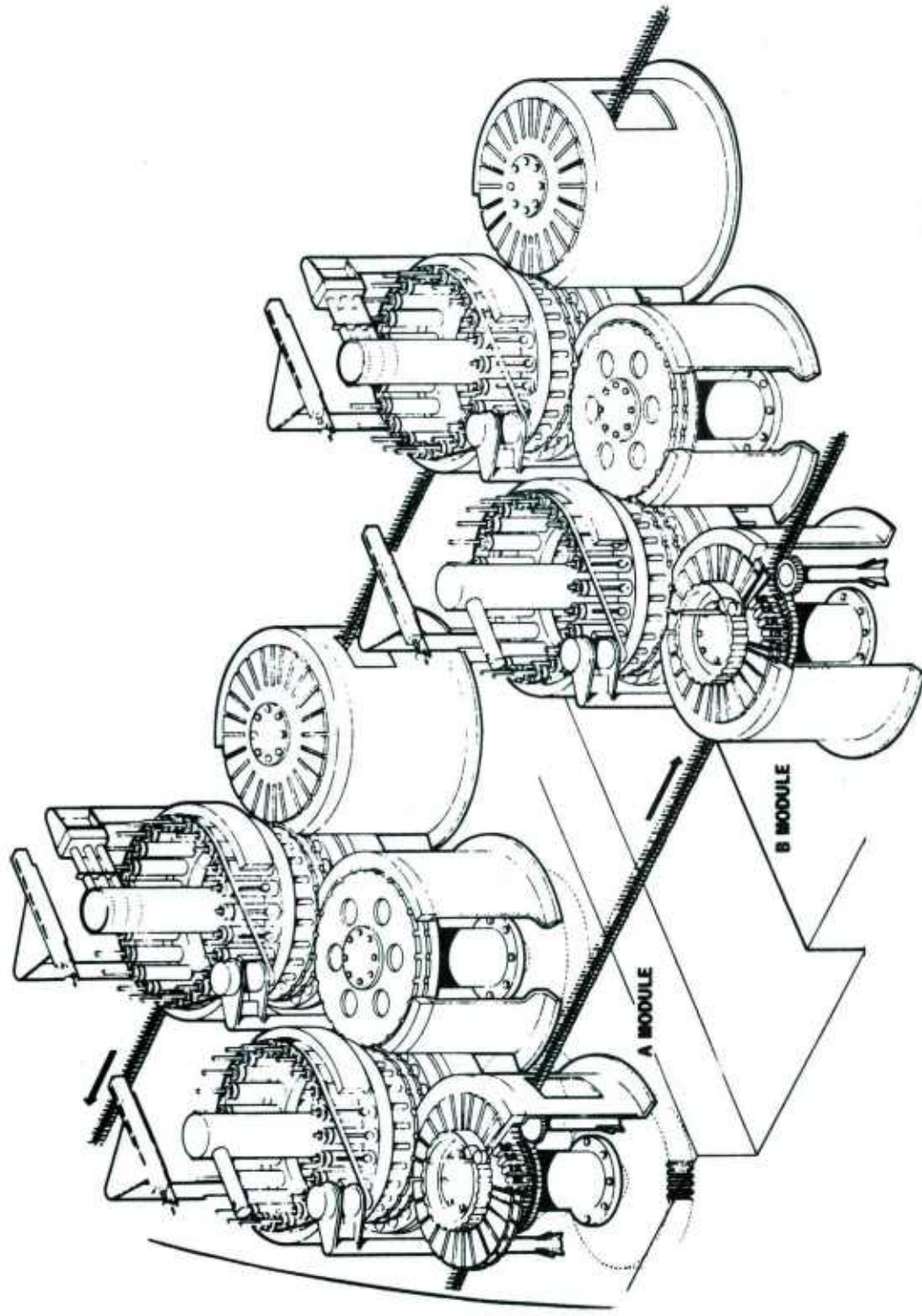
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 81 5054	LASER SURFACE HARDENED COMBAT VEHICLE COMPONENTS ***** DELINQUENT STATUS REPORT *****	175.0			SEP 83	SEP 83
T 80 5062	ARMORED VEHICLE VISION BLOCKS ***** DELINQUENT STATUS REPORT *****	19.6		12.7	MAY 81	JUN 82
T 79 5064	LIGHT WEIGHT SADDLE TANK-PHASE 2 ***** DELINQUENT STATUS REPORT *****	196.8		82.0	FEB 81	APR 83
T 82 5064	LIGHT WEIGHT SADDLE TANK, PHASE III --- JUST FUNDED. NO 301 REQUIRED. ---	85.0				
T 79 5067	PLASTIC BATTERY BOX ***** DELINQUENT STATUS REPORT *****	201.6	97.0	67.4	OCT 79	JUN 82
T 80 5067	PLASTIC BATTERY BOX (PHASE II) ***** DELINQUENT STATUS REPORT *****	15.0		13.0	DEC 80	JUN 82
T 81 5068	NEW ANTI-CORROSIIVE MATERIALS AND TECHNIQUES (PHASE II) ***** DELINQUENT STATUS REPORT *****	300.0			SEP 82	SEP 82
T 81 5075	MILITARY ELASTOMERS FOR TRACK VEHICLES (PHASE II) ***** DELINQUENT STATUS REPORT *****	200.0		10.9	SEP 82	SEP 82
T 82 5075	MILITARY ELASTOMERS FOR TRACK VEHICLES (PHASE II) --- JUST FUNDED. NO 301 REQUIRED. ---	200.0				
T 80 5082	FLEXIBLE MACHINING SYSTEM, PILOT LINE FOR TCV COMPONENTS ***** DELINQUENT STATUS REPORT *****	857.0	813.4	14.3	JAN 81	JUN 82
T 81 5082	FLEXIBLE MACHINING SYS (FMS) PILOT LINE F/TCV COMPONENTS ***** DELINQUENT STATUS REPORT *****	779.0	712.9		MAR 82	JUN 82
T 82 5082	FLEXIBLE MACHINING SYS (FMS) PILOT LINE F/TCV COMPONENTS --- JUST FUNDED. NO 301 REQUIRED. ---	750.0				
T 79 5083	UPSCALING OF ADVANCED POWDERED METALLURGY PROCESSES-PH 3 ***** DELINQUENT STATUS REPORT *****	328.0	204.0	84.0	MAR 81	OCT 83
T 78 5085	PRODUCTION TECHNIQUES FOR FABRICATION OF TURBINE RECUPERATOR ***** DELINQUENT STATUS REPORT *****	1,047.5	1,005.6	39.2	JAN 80	DEC 82
T 80 5085	TURBINE RECUPERATOR ***** DELINQUENT STATUS REPORT *****	133.0	102.1	22.0	OCT 81	SEP 82

S U M M A R Y P R O J E C T S T A T U S R E P O R T
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 81 5085	PRODUCTION TECH F/EAB TURBINE RECUPERATOR ***** DELINQUENT STATUS REPORT *****	250.0	215.0		SEP 82	SEP 82
T 79 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY ***** DELINQUENT STATUS REPORT *****	455.0	326.0	39.0	FEB 81	JUN 82
T 80 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY (PHASE 2) ***** DELINQUENT STATUS REPORT *****	229.0	229.4		NOV 81	JUN 82
T 81 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY (PHASE III) ***** DELINQUENT STATUS REPORT *****	30.0			DEC 82	DEC 82
T 82 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY (PHASE IV) --- JUST FUNDED. NO 301 REQUIRED. ---	250.0				
T 81 5091	HEAVY ALUMINUM PLATE FABRICATION (PHASE 1) ***** DELINQUENT STATUS REPORT *****	30.0		6.0	MAR 84	MAR 84
T 79 5094	ARMOR STEEL TREATED WITH RARE EARTH ADDITIONS ***** DELINQUENT STATUS REPORT *****	48.0	14.1	27.0	SEP 80	JUN 82
T 78 5097	INTEGRALLY CAST LOW COST COMPRESSOR (PHASE II) ***** DELINQUENT STATUS REPORT *****	342.0	267.0	75.0	JUN 80	DEC 82
T 81 5097	INTEGRALLY CAST LOW COST COMPRESSOR (PHASE III) ***** DELINQUENT STATUS REPORT *****	50.0		30.0	DEC 81	JUN 82
T 81 6011	SPRINGS FROM FIBER/PLASTIC COMPOSITES ***** DELINQUENT STATUS REPORT *****	250.0		14.0	JAN 83	JAN 83
T 82 6011	SPRINGS FROM FIBER/PLASTIC COMPOSITES --- JUST FUNDED. NO 301 REQUIRED. ---	45.0				
T 81 6028	PRODUCTION QUALITY CONTROL BY AUTOMATED INSPECT EQUIPMENT ***** DELINQUENT STATUS REPORT *****	60.0	50.0		JUL 82	JUL 82
T 78 6035	ESTABLISH ON-LINE NOT FOR TRACKED COMBAT VEHICLES (PHASE 1) ***** DELINQUENT STATUS REPORT *****	1,832.0	1,630.0	201.3	APR 81	JUN 82
T 79 6038	HIGH DEPOSITION WELDING ***** DELINQUENT STATUS REPORT *****	503.0	408.0	37.0	JUL 80	SEP 82
T 81 6053	WELDING SYSTEMS INTEGRATION ***** DELINQUENT STATUS REPORT *****	552.0			SEP 83	SEP 83

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 82 6053	WELDING SYSTEMS INTEGRATION --- JUST FUNDED. NO 301 REQUIRED. ---	23.0				
T 81 6054	ADVANCED METROLOGY SYSTEMS INTEGRATION ***** DELINQUENT STATUS REPORT *****	350.0		13.0	MAR 84	MAR 84
T 80 6057	XM1 COMBAT VEHICLE ***** DELINQUENT STATUS REPORT *****	1,088.0	1,058.0	25.0	OCT 82	JAN 83
T 81 6057	XM1 COMBAT VEHICLE ***** DELINQUENT STATUS REPORT *****	1,567.0		7.0	MAY 82	JUN 82
T 82 6057	XM1 COMBAT VEHICLE --- JUST FUNDED. NO 301 REQUIRED. ---	1,600.0				
T 80 6059	LARGE CAST ALUMINUM COMPONENTS ***** DELINQUENT STATUS REPORT *****	538.0	523.0	12.0	JUL 81	JUN 82
T 81 6059	M2 AND M3 FIGHTING VEHICLE SYSTEM ***** DELINQUENT STATUS REPORT *****	291.0			NOV 84	NOV 84
T 82 6059	M2 AND M3 FIGHTING VEHICLE SYSTEM --- JUST FUNDED. NO 301 REQUIRED. ---	570.0				
T 81 6076	AUTOMATED DEPT INSPECTION OF ROADWHEELS ***** DELINQUENT STATUS REPORT *****	247.0	225.0	0.4		SEP 83
T 81 6089	ABRAMS TANK PLANT - TECH MOD PROGRAM ***** DELINQUENT STATUS REPORT *****	100.0				
T 81 6098	PRODUCTION OF SPECIAL ARMOR STEEL ***** DELINQUENT STATUS REPORT *****	900.0				
T 81 6099	MANUFACTURING METHODS FOR SPECIALIZED ARMOR MATERIALS ***** DELINQUENT STATUS REPORT *****	1,200.0				
T 81 6100	ENGINEERING SUPPORT DIRECTORATE TECH MOD PROGRAM ***** DELINQUENT STATUS REPORT *****	100.0				



ARMAMENT R&D COMMAND
ARMAMENT MATERIEL READINESS COMMAND
(ARRADCOM, ARRCOM)
(AMMUNITION)

A R R C O M - A R R A O C O M (AMMUNITION)

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
75	1	3,760,000	2,256,000	2,169,000 (96%)	1,504,000	1,504,000 (100%)
76	2	1,394,000	958,100	839,100 (87%)	435,900	393,400 (90%)
77	1	1,079,000	963,000	888,000 (92%)	116,000	116,000 (100%)
77	4	3,483,900	2,497,300	2,427,800 (97%)	986,600	939,300 (95%)
78	13	8,428,300	5,901,100	5,484,900 (92%)	2,527,200	2,401,400 (95%)
79	34	21,737,300	12,835,800	10,307,100 (80%)	8,901,500	7,498,600 (84%)
80	44	23,422,400	14,884,300	8,356,000 (56%)	8,538,100	5,524,000 (64%)
81	38	25,829,500	16,878,900	5,634,500 (33%)	8,950,600	2,664,900 (29%)
82	8	6,762,000	500,000	0 (0%)	6,262,000	0 (0%)
TOTAL	145	95,896,400	57,674,500	36,106,400 (62%)	38,221,900	21,041,600 (55%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 60% INHOUSE REMAINING 39%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCHT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 80 0900	AUTOMATED MULTIPLE FILTER LIFE TESTER THE DESIGN CONCEPTS FOR THE TESTER, EXCEPT THE SOURCE OF THE INTERMITTENT FLOW, HAS BEEN FORMULATED. THE CURRENT CONCEPT ALLOWS FOR BOTH GB + CR OPERATION. TO ACCOMPLISH THIS THE TESTER WILL CONSIST OF COMPONENTS FOR EACH OPERATIONAL SECTION.	252.0	115.0	70.0	NOV 81	FEB 84
8 80 0915	GROUP TECH REQUIREMENTS DEFINITION ELECTRONICS A SURVEY IN THE ELECTRONICS INDUSTRIES WAS CONDUCTED. THIRTY COMPANIES WERE CONTACTED AND SENT QUESTIONNAIRES TO DETERMINE THE REQUIREMENTS FOR A GT ELECTRONICS AND CODING SYSTEM. DATA IS BEING ANALYZED. TEN INTERVIEWS ARE PLANNED.	30.0	27.0		DEC 81	MAR 82
5 80 1001	PILOT LINE FOR FUZE FLUIDIC POWER SUPPLIES ***** DELINQUENT STATUS REPORT *****	253.0	202.0	7.0	OCT 81	JUN 82
5 81 1001	PILOT LINE FOR FUZE FLUIDIC POWER SUPPLIES ***** DELINQUENT STATUS REPORT *****	315.0				
5 80 1003	LOW COST MOLDED PACKAGING FOR HYBRID ELECTRONICS ***** DELINQUENT STATUS REPORT *****	243.0	179.0	12.0	MAY 81	JUN 82
5 80 1005	CERAMIC-METAL SUBSTRATES FOR HYBRID ELECTRONICS ***** DELINQUENT STATUS REPORT *****	319.0	204.0	32.0	UCT 81	JUN 82
5 77 1295	MODERNIZATION OF CHARCOAL FILTER TEST EQUIPMENT ***** DELINQUENT STATUS REPORT *****	240.0	175.0	65.0	AUG 78	AUG 82
5 79 1295	MODERNIZATION OF CHARCOAL FILTER TEST EQUIPMENT THE FOLLOW-ON DESIGN + TDP PREPARATION CONTRACT WAS AWARDED. THE PROJECT WAS RESTRUCTURED FROM A FAB EFFORT TO AN ENGINEERING DESIGN EFFORT. THIS CHANGE WAS NECESSITATED BY THE REQ OF DODESB FOR DESIGN APPROVAL PRIOR TO ANY FABRICATION.	360.0	249.0	65.0	DEC 80	AUG 82
8 76 1296	MT FOR CB FILTERS SP1 FINAL REPORT ON CHARCOAL HANDLING EQMT BEING PREPARED. SP2 REPORT PREPARED ON PERF PLATE CONCEPT AND VIBRATION COMPACTION STUDY. SP3 REPORT PUBLISHED IN FILTER PULSE TESTING. SP4 REPORT ON DUST AND HUMIDITY CONTROL STUDIES COMPLETED.	654.0	291.8	362.2	MAR 79	JAN 82
5 79 1296	MT FOR CB FILTERS SP2 FINAL REPORT BEING PREPARED ON SIDE FILLING MACHINE FABRICATION AND TESTING. SP3 FILTER PULSE TESTING PROVED TO BE UNSUCCESSFUL TEST. COMPLETED REPORT ON WHEATERIZED CHARCOAL.	400.0	75.0	325.0	MAY 80	JAN 82
5 80 1296	MANUFACTURING TECHNOLOGY FOR CB FILTERS SP2 SIDE FILLING STUDIES COMPLETE AND TECH REPORT WRITTEN. SP3 VELOCITY TRAVERSE TESTER UNDER CONSTRUCTION BY AAI.	404.0	153.0	229.0	MAR 81	MAY 82

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 79 1318	CHEMICAL PRODUCTION FILL, CLOSE AND LAP FOR 8 IN XM736 PROJ QLINM FILL FIXTURE TESTING WAS COMPLETED. XM736 PROJECTILE EFFORT TERMINATED BECAUSE OF R+D PROGRAM TERMINATION.	398.0		398.0	MAR 81	JAN 82
5 80 1318	EST CHEMICAL PROD + FILL CLOSE + LAP TECH F/PROJ 811 VX-2 THE THERMAL PILOT INCINERATION STUDY WAS COMPLETED. RESULTS INDICATED A 99 PERCENT DESTRUCTION OF ORGANICS IN THE WASTE STREAM. NOX LEVELS WERE ACCEPTABLE.	484.0	31.0	346.0	JUN 81	JUL 82
5 81 1318	EST CHEM PROD + FILL CLOSE + LAP TECH F/VX2 XM736 BICEYE BOMB FILL AND CLOSE FEASIBILITY AND LINE ADAPTATION STUDY WERE COMPLETED. DESIGN AND FABRICATION OF FILL SYSTEM INITIATED.	216.0		60.0	JUL 82	JUL 82
8 78 1335	MFG TECH FOR NEW PROTECTIVE MASK COMPLETED PROCESS ENGINEERING WORK FOR COATING AUTOMATION. COMPLETED FRONT VOICEMITTER AND HOUSING TOOLING AND SIDE VOICEMITTER TOOLING. REVIEWED AND APPROVED DRAWINGS FOR FACEBLANK, NOSECUP MOLDS, AND LENS MULO.	764.0	400.0	324.0	JUN 79	APR 82
5 79 1335	MAN TECH FOR NEW PROTECTIVE MASK PREPARED PURCHASE REQUESTS FOR TOOLS FOR EXHALATION VALVE AND SIDE PORT. MEDIUM LENS, NOSECUP, AND FACEBLANK TOOLS COMPLETED AND SET UP.	1,173.0	500.0	658.0	OCT 82	JUN 82
5 80 1335	MANUFACTURING TECHNIQUES FOR NEW PROTECTIVE MASK MOLDS AND PRESSES ADONTRACT TO MSA FULLY FUNDED.	1,504.0	1,092.0	409.0	OEC 82	UCT 82
5 81 1335	TECH FOR NEW PROTECTIVE MASK PILOT PRODUCTION INITIATED AND INITIAL QUANTITIES OF MASK COMPONENTS PRODUCED. LENS BONDING EQUIPMENT INSTALLED AND TWO GROUPS OF 50 EACH FACEBLANK/LENS BONDED ASSEMBLIES SUBMITTED FOR TEST.	2,046.0	1,618.0	101.0	OCT 82	UCT 82
5 82 1335	MFG TECH FOR NEW PROTECTIVE MASK THIS PROJECT WAS JUST FUNDED. NO ACTIVITY REPORTED.	500.0	500.0		JUN 82	JUN 82
8 78 1345	BIOLOGICAL WARNING SYSTEM ALL PROJECT TASKS HAVE BEEN COMPLETED. THE FINAL REPORT HAS BEEN PREPARED.	480.0	233.0	247.0	JAN 80	JAN 82
5 79 1345	BIOLOGICAL WARNING SYSTEM ALL PROJECT TASKS HAVE BEEN COMPLETED.	525.0	229.0	296.0	DEC 80	JAN 82
5 80 1345	BIOLOGICAL WARNING SYSTEM ALL PROJECT TASKS HAVE BEEN COMPLETED EXCEPT FOR THE REFILL KIT ITEMS TESTING EVALUATION, ODM VERIFICATION TESTS AND DOCUMENTATION WHICH ARE IN PROGRESS.	463.0	173.0	249.0	SEP 82	SEP 82

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PKOJ NO.	TITLE + STATUS	AUTHOR- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 80 1348	SUPER TROPICAL BLEACH TECHNOLOGY INV, FEASIBILITY STUDY OF PROCESSES AND PRE-PILOT EVAL HAVE BEEN COMPLETED. THE LIQUID REACTOR DOUBLE SALT PROCESS WAS SELECTED FOR PILOTING.	202.0	170.7	29.3	MAR 81	APR 82
5 81 1348	SUPER TROPICAL BLEACH WORK PERFORMED ON ENGINEERING DESIGN OF LIQUID REACTOR DOUBLE SALT PILOT PLANT.	822.0	537.3	33.8	APR 84	APR 84
5 78 1353	SMOKE MIX PROCESS (GLATT) COMPLETED 12 WEEK ENVIRONMENTAL STORAGE. INITIATED LONG TERM AMBIENT STORAGE TEST. CONTINUED PREPARATION OF FINAL TECHNICAL REPORT.	417.0	18.0	399.0	OCT 80	OCT 82
5 79 1354	SLUDGE VOLUME REDUCTION AND DISPOSAL PROCESS STUDY ALL TASKS ARE COMPLETED. PROJECT WILL BE FINALIZED IN THE NEAR FUTURE. WORK ON THE EFFORT CONTINUING IN 5801354 AND 5811354.	122.0		122.0	SEP 80	MAR 82
5 80 1354	SLUDGE VOLUME REDUCTION AND DISPOSAL PROCESS STUDY DESIGN OF PILOT DEWATERING EQUIPMENT IN CENTRAL WASTE WATER TREATMENT FACILITY IS CONTINUING. EQUIPMENT SELECTION AND INSTALLATION WAS ALSO PLANNED.	156.0		113.9	DEC 80	SEP 82
5 81 1354	SLUDGE VOLUME REDUCTION AND DISPOSAL PROCESS REVIEWED RCRA REGULATIONS FOR HAZARDOUS SLUDGE DISPOSAL. UPDATING OF MCA-85 PROJECT FOR HAZARDOUS WASTE LANDFILL WAS CARRIED OUT.	110.0			SEP 83	SEP 83
5 79 1355	MANUFACTURING PLANT TOXIC EFFLUENT/EMISSION PRETREATMENT REVIEWED DRAFT REPORT BY BATTELLE ON TOXICITY TEST OF PBA EFFLUENTS.	104.0	52.2	51.8	JAN 81	MAR 82
5 80 1355	MANUFACTURING PLANTS TOXIC EFFLUENT/EMISSION PRETREATMENT ***** DELINQUENT STATUS REPORT *****	222.0		55.6	DEC 81	JUN 82
5 81 1500	EVAL INDUST CAPABILITY F/LOAD COMMERCIAL EXPL-HIGH USE MUNIT DURING THE LAST THREE MONTHS THE CONTRACTORS HAVE DONE SOME OF THE PHASE I TESTING SUCH AS VELOCITY OF DETONATION, GAP TESTS, UNDERWATER TESTS, AND SHELF LIFE TESTING.	473.0	244.0	6.0	SEP 82	SEP 82
5 79 1903	DIE CAST TAILCONE + DESIGN MACHINE FOR BLU-96/B ***** DELINQUENT STATUS REPORT *****	450.0	426.0	24.0	APR 80	JUN 82
5 80 1903	DIE CAST TAIL CUNE + DESIGN MACHINE FOR BLU-96/B ***** DELINQUENT STATUS REPORT *****	1,176.0	1,140.0	10.6	MAR 81	JUN 82

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5 81 1907	AUTOMATED GAGING FOR MED. CAL. PROJ. BOOLES (CAM) ***** DELINQUENT STATUS REPORT *****	544.0	23.6	81.6	SEP 83	SEP 83
5 78 3907	MNDS COUNTER-MEMORY CIRCUIT FOR FUZES ***** DELINQUENT STATUS REPORT *****	300.0	273.7	25.0	SEP 79	JUN 82
5 79 3960	PROTOTYPE PDN EQUIP FOR PRINTED CIRCUIT BOARDS ***** DELINQUENT STATUS REPORT *****	405.0	170.0	94.0	DEC 79	JUN 82
5 79 3961	IMPROVED 3-0 VIBRATION ACCEPTANCE TEST FOR ART FUZES ***** DELINQUENT STATUS REPORT *****	282.0	192.0	69.0	SEP 81	JUN 82
5 80 3961	IMPR (3-0) VIB ACCEPT TSTNG F ART FUZES AND S/A MECHANISMS ***** DELINQUENT STATUS REPORT *****	352.0	282.0	4.0	SEP 82	JUN 82
5 81 3961	IMPRVD VIBR ACCEPTANCE TESTING F/M732, XM587/724 FUZES + S+A ***** DELINQUENT STATUS REPORT *****	253.0				
5 79 4000	AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT CUP INSPECTION MODULE WAS SHIPPED TO LONE STAR AAP AND SUBJECTED TO 40 HOUR TEST, TEST COMPLETED. MATERIAL HANDLING SYSTEM COMPLETED SUCCESSFULLY. THE MATERIAL HANDLING SYSTEM WAS SHIPPED TO IOWA AAP.	1,662.4	718.4	930.2	MAR 81	SEP 82
5 81 4000	AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT IAAP WAS FUNDED TO ACCOMPLISH INSTALLATION OF THE INTEGRATED SYSTEM. REVIEW OF THE SYSTEM HAZARDS ANALYSIS FINAL REPORT IS UNDERWAY.	604.0	268.0	197.8	SEP 81	SEP 82
5 79 4024	DSN DEV BLO PROT COMP AND AUTO ASSY MACH M223 FZ FABRICATION OF SCREW AND WEIGHT ASSEMBLY MACHINE AND THE OETRAY MACHINE HAS BEEN COMPLETED. FABRICATION OF THE SLIDE ASSEMBLY AND FUZE ASSEMBLY MACHINES WAS STARTED.	1,132.0	945.1	184.4	SEP 81	SEP 82
5 81 4027	COMBINED SOLVENT RECOVERY/DRYING OF S-B PROPELLANT ***** DELINQUENT STATUS REPORTS *****	337.0				
5 80 4033	CAUSTIC RECOVERY FROM SODIUM NITRATE SLUDGE ALTERNATIVE TECHNIQUES FOR SODIUM NITRATE RECOVERY WERE INVESTIGATED. THE MOST PROMISING TECHNIQUE WAS THE NEUTRALIZATION OF NITRIC ACID WITH AMMONIA FOLLOWED BY HYDROGENATION TO YIELD LIQUID AMMONIUM NITRATE.	153.0	29.7	106.9	JAN 81	MAR 82
5 80 4037	PROCESS IMPROVEMENT FOR PLASTIC-BONDED EXPLOSIVES RFQ FOR CONICAL BLENDER RESULTED IN 2 BIDS. BID SELECTED WAS FOR A NAUTA SCREW TYPE BLENDER. BLENDER WILL BE USED FOR PROCESSING PBX UNDER PROJ 4449. PENDING VE RESULTS, IT MAY ALSO BE USED TO KNEAD COMP C-4 IN PREPARATION FOR DRYING.	255.8	204.8	37.9	DEC 81	SEP 82

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 79 4046	QUANTITATIVE ANAL. OF BLENDED EXPLDS. SAMPLES TESTS PERFORMED ON LUNE STAR AAP POLAROGRAPH. FIRST ERRATIC READINGS TRACED TO FAULTY INGREDIENTS. SUBSEQUENT TESTING INDICATED POLAROGRAPH IS OPERATIONAL. THESE INGREDIENT PROBLEMS CAUSED SLIPPAGE OF FINAL ACCEPTANCE TESTS. RESULTS SENT TO ARRACCOM.	307.0	70.0	226.6	NOV 80	MAR 82
5 79 4059	OPTIMIZATION - NITROGUANADINE IN M30 PROPELLANT IT WAS CONCLUDED THAT THE PERFORMANCE OF THE SLURRY MONITOR WAS ACCEPTABLE. FURTHER WORK ON THE FEEDING OF DRY NQ TO THE PUMPER MONITOR WAS DISCONTINUED BECAUSE OF DIFFICULTIES IN SEPARATING NQ PARTICLES.	271.0	241.0	25.9	MAR 81	JUN 82
5 81 4059	CONTROL OF NQ CRYSTALLIZATION AN INVESTIGATION OF THE AGGLOMERATION OF NQ WAS BEING CONDUCTED WHICH INCLUDED THE EFFECTS OF TIME AND HUMIDITY ON SPECIFIC SURFACE. THE EFFECTS OF SOLVENT AND ADDITIVES ON CRYSTAL HABIT AND SURFACE CHARACTERISTICS.	190.0	1.5	96.7	SEP 82	DEC 82
5 80 4061	NITROGUANADINE PROCESS OPTIMIZATION TEST PLANS FOR OPTIMIZATION OF THE GUANIDINE NITRATE AND NITROGUANADINE SECTIONS OF THE PLANT WERE WRITTEN AND APPROVED. DETAILED PLANNING FOR THE GUANIDINE NITRATE RUNS WAS COMPLETED.	260.0	145.0	80.0	MAY 81	JUN 82
5 81 4061	NITROGUANADINE PROCESS OPTIMIZATION THE NITROGUANADINE SUPPORT EQUIPMENT IS BEING OPERATED IN ACCORDANCE WITH PLANS TO OPTIMIZE THE PROCESS FOR PRODUCING GUANIDINE NITRATE INTERMEDIATE.	905.0	823.0	43.0	DEC 82	SEP 82
5 82 4061	NITROGUANADINE PROCESS OPTIMIZATION --- JUST FUNDED. NO 301 REQUIRED. ---	925.0				
5 79 4062	AUTO MFG SYSTEM FOR MORTAR INCREMENT CONTAINERS THE SOWS TO COMPLETE DEVELOPMENT OF THE SLURRY VACUUM FORMING + PAPER MOLDING BASED MANUFACTURING SYSTEMS + THE ASSEMBLY SYSTEM WERE FORWARDED TO PROCUREMENT FOR ACTION.	507.0	12.4	475.4	APR 82	MAY 82
5 80 4062	AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS THE DETAIL DRAWING PACKAGE FOR THE ASSEMBLY SYSTEM WAS COMPLETED.	883.9	881.9		OCT 81	MAY 82
5 81 4062	AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS FABRICATION OF THE SLURRY VACUUM FORMING BASED MANUFACTURING SYSTEM AND THE ASSEMBLY SYSTEM WAS INITIATED. THE SLURRY VACUUM FORMING AND PAPER MOLDING PRODUCTION OPTIMIZATION EFFORTS ARE IN PROGRESS.	2,418.0	2,252.0	22.3	JUL 83	MAY 82

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5 82 4062	AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS --- JUST FUNDED. NO 301 REQUIRED. ---	2,812.0				
5 79 4064	AUTO LAP OPERATIONS FOR 105MM TANK CARTRIDGES A PRACTICAL PRODUCTION SYSTEM FOR THE AUTOMATED LOAD AND ASSEMBLY OF A FAMILY OF 105MM TANK CARTRIDGES HAS BEEN DESIGNED. THE TDP IS IN VARIOUS STAGES OF DETAIL DESIGN EXECUTION AND VERIFICATION. COST GROWTH LIMITS FINAL COMPLETION TO THE LINER ASSY.	1,277.0	1,011.7	248.0	SEP 80	SEP 82
5 79 4124	FABRICATION OF CONTROL ACTUATION SYSTEM HOUSINGS ALL BASIC MACHINING SOFTWARE PROCESSES HAVE BEEN COMPLETED. ALL FIXTURING HAS BEEN DESIGNED AND MUST HAVE BEEN FABRICATED. A DEMONSTRATION IS PLANNED FOR MAY 1982.	930.0	786.2	107.5	JUN 80	DEC 82
5 78 4139	APPLICATION OF RADAR TO BALLISTIC ACCEPTANCE TEST OF AMMU THE RADAR SYSTEM IS BEING UPGRADED. THE RANGE WILL BE INCREASED TO 20 NM. THE SYSTEM HAS BEEN USED ON A NUMBER OF TESTS WITH GOOD RESULTS. THE LAST TEST DEMONSTRATED ARBAT'S CAPABILITY TO TRACK 30MM, 8 ROUNDS TRACKED AND (SEE PROJECT 5 79 4139).	1,565.0	1,293.7	271.3	FEB 79	FEB 82
5 79 4139	APPL OF RADAR TO BALLIST ACC TESTG OF AMMO-AKBAT (SEE PROJECT 5 78 4139.) 2 ROUNDS IMPACTED TARGET AT AN ANGLE AND OEFLECTED. THE ENTIRE ARBAT SYSTEM IS BEING MODERNIZED.	763.8	735.6	28.2	SEP 79	FEB 82
5 81 4145	CONTROL OF DRYING UN AUTOMATED SB AND BALL PROPELLANTS MFG ENGINEERING REVIEW AND VENDOR SURVEY IS COMPLETE, AND A DECISION HAS BEEN MADE TO PROCURE A GAS CHROMATOGRAPHIC SYSTEM FOR SOLVENT RECOVERY AND WATER DRY OPERATION. A DECISION WILL BE MADE TO PROCURE THE MOST SUITABLE AIR DRYING SYSTEM BY 31 DEC 81.	327.0	212.0	78.9	JUN 82	MAR 83
5 78 4149	LOADING OF 30MM ADEN/DEFA HEDP AMMUNITION EXTRUSION PROCESS FOR PROJECTILE HAS BEEN ACCOMPLISHED + DEFINED. PROCESS USED FOR R&D QUALIFYING HARDWARE. CHARGING PROCESS FOR HEDP PROJ. WAS COMPLETED. PARAMETERS FOR FUTURE AUTOMATED PRODUCTION EQUIPMENT WERE ESTABLISHED.	500.0	405.7	92.8	MAY 79	APR 82
5 78 4150	NEW MANUFACTURING PROCESSES FOR S&WS AMMUNITION SEE PROJECT 5 79 4150 FOR THE PROJECT STATUS.	61.4	19.3	32.9	SEP 80	JUN 82
5 79 4150	NEW MANUFACTURING PROCESSES FOR SMALL CALIBER PENETRATORS TWO PROTOTYPE BULLET ASSEMBLY CONFIGURATIONS FOR DUPLEX OPERATIONS WERE EVALUATED. SELECTION WAS MADE ON THE BASIS OF THE SMOOTHNESS OF MACHINE OPERATION.	376.0	220.0	138.5	MAR 81	JUN 82
5 80 4150	NEW MANUFACTURING PROCESSES FOR S&WS AMMUNITION THE KINEFAC CORPORATION SUCCESSFULLY COMPLETED THE 500,000 PENETRATOR DEMONSTRATION IN JULY 81. ALL TECHNICAL WORK EXCEPT THE FINAL REPORT IS COMPLETED. KINEFAC HAS PROPOSED PRODUCTION OPERATION OF THE PROTOTYPE EQUIPMENT AT THEIR PLANT.	489.0	332.7	155.9	JUN 82	JUN 82

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5 81 4150	NEW MANUFACTURING PROCESSES FOR SMALL CALIBER PENETRATORS CONTRACT AWARD FOR INSTALLATION OF KINEFACS ROLL FORMING PROCESS EQUIPMENT AT LAKE CITY AAP WAS TEMPORARILY DEFERRED PENDING EVALUATION OF MAKE OR BUY ALTERNATIVES. NEW SCHEDULES WILL BE MADE IN DEC 81.	211.0	75.0	94.9	JUL 82	JUN 82
5 80 4189	HIGH FRAGMENTATION STEEL PRODUCTION PROCESS MULT SIZE IS DETERMINED. FORGE TUDLING IS VERIFIED, SPHEROIDIZED, ANNEALED FORGINGS AWAIT MACHINING. ESTIMATES FOR GAGES ARE RECEIVED. THESE AND COST OF BATTELLE MATH MODELING ARE IN PROCESS OF BEING FUNDED.	1,048.0	550.7	392.0	JAN 81	DEC 82
5 82 4189	HIGH FRAGMENTATION STEEL PRODUCTION PROCESS --- JUST FUNDED. NO 301 REQUIRED. ---	1,697.0				
5 82 4200	TNT CRYSTALLIZER FOR LARGE CALIBER MUNITIONS --- JUST FUNDED. NO 301 REQUIRED. ---	366.0				
5 80 4210	DRY CUTTING OF ENERGETIC MATERIALS BUILDING MOD CONTRACT AWARDED, WORK BEGUN AND NEARING COMPLETION. FLUID JET CUTTER DELIVERED AND CHECKED FOR DAMAGE AND SPECIFICATION COMPLIANCE. CONVEYOR BIDS EVALUATED AND VENDOR SELECTED. COST GROWTH OF \$17K NOW PROJECTED FOR PROJECT.	448.7	336.7	76.0	MAY 82	SEP 82
5 79 4214	POLLUTION ENGINEERING FOR 1983-85 REQUIREMENTS PROJECT 5XX4214 IS AN ORDERLY TRANSITION OF PROJECT 5XX4114 POLLUTION ABATEMENT METHODS FOR PROPELLANTS AND EXPLOSIVES AND IS DIRECTED TO MEETING FUTURE STANDARDS. REFER TO INDIVIDUAL TASKS FOR ANY CHANGES AND/OR ADDITIONAL INFO PERTINENT TO PROJECT.	1,269.0	535.5	733.5	SEP 80	JUN 82
5 79 4214 P1	TECHNOLOGY REQUIREMENTS A SIXTH PRODUCTION SIZE M658 PROPELLANT BATCH PROCESSES WITH AN ACETONE/ETHANOL SOLVENT WAS PROCESSED AND TESTED. FINAL REPORT BEING PREPARED. ADDENDUM TO FINAL TR OF REMOVAL OF NOX FUMES HAS DESIGN TO ALLOW H2O2 SCRUBBING ON EXISTING BAAP SCRUBBERS.	367.0	142.0	225.0	SEP 79	JUN 82
5 79 4214 P2	IN-PLANT REUSE OF POLLUTION ABATED WATERS OPERATION OF PILOT-SCALE WASTEWATER TREATMENT PLANT COMPLETED AT RAAP. ACTUAL EFFLUENT FROM PROPELLANT AREA OF THIS PLANT USED FOR RUNS. ECON EVAL AND DESIGN CRITERIA BEING PREPARED FOR IMPLEMENTATION OF THIS PROJECT AT RAAP.	449.0	278.0	171.0	JUL 80	JUN 82
5 79 4214 P3	LOW COST SYSTEM TO ABATE NITROBODY POLLUTION FINAL TECHNICAL REPORTS ON ALTERNATIVE TECHNOLOGIES FOR THE TREATMENT OF PINK WASTEWATER ARE BEING PREPARED.	325.0	45.0	280.0	MAR 80	JUN 82

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5 79 4214 P4	NG-NITRATE ESTER REMOVAL BY ABSORPTION/RECYCLE EVALUATION OF NG ADSORPTION FROM NG-2 AREA WASTEWATERS USING REGENERABLE RESIN ADSORBENTS COMPLETED. HAZARDS ANALYSIS OF PENETRATION OF COLUMNS USING XAO-4 AND XE-348 RESINS COMPLETED. FINAL PROJECT REPORT IS BEING PREPARED COVERING ALL TEST RESULTS.	128.0	70.0	58.0	SEP 80	JUN 82
5 81 4225	RED WATER POLLUTION ABATEMENT SYSTEM CONTRACT AWARDED TO HERCULES-RAAP IN JUNE 81 TO CONTINUE EFFORT. SOLID BOWL CENTRIFUGE WAS RECEIVED AND INSTALLED. FURNACE ASH CHARACTERIZATION STUDIES WERE ACCOMPLISHED TO PROVIDE DATA THAT WILL FACILITATE THE ELIMINATION OF H2S IN THE TANKS + DUCTS	160.0	60.0	80.0	MAR 83	MAR 83
5 81 4226	ON-LINE MONITORS FOR WATER POLLUTANTS FUNDING PROCESSED IN SEPT, 1981. WORK BEGUN ON TASK B AT RADFORD AAP. THIS IS DESIGN OF A DETECTION/CONTROL SCHEME FOR POLLUTION CONTROL ON THE SULFITE RECOVERY PROCESS. OTHER WORK EXPECTED TO BEGIN IN JANUARY, 1982.	439.0	325.0	71.6	SEP 82	MAR 84
5 80 4231	IN-PLANT REUSE OF POLLUTION ABATED WATERS WORK AT KANSAS AAP IS BEING CONDUCTED TO INVESTIGATE THE USE OF BOTH UV-OZONE AND CARBON ADSORPTION FOR TREATING BOTH COMPOSITION B AND COMPOSITION A-5 CONTAMINATED WASTEWATERS PRIOR TO RECYCLE AND REUSE.	239.5	153.0	86.5	JUL 81	JUN 82
5 81 4231	IN-PLANT REUSE OF POLLUTION ABATED WATERS WORK INITIATED AT BOTH MILAN AAP AND LONE STAR AAP TO ESTABLISH PROCESS WATER SPECS, DETERMINE QUALITY AND QUANTITY OF POLLUTION ABATED WATERS, EVALUATE PRACTICABILITY, ECONOMICS, + ENERGY REQMTS, AND DETERMINE THE MIN REQD TREATMENT PRIOR TO REUSE.	464.0	303.1	77.5	JUN 83	JUN 83
5 80 4266	MFG, IHSP AND TEST EQUIPMENT FOR MAGNETIC POWER SUPPLY SEE PROJECT 5 81 4266 FOR STATUS.	345.0	270.0	75.0	JUL 82	SEP 82
5 81 4266	MANUF, INSPECT + TEST EQUIP F/MAGNETIC POWER SUPPLY THE DETAILED DESIGN OF THE ASSEMBLY STATIONS WAS COMPLETED AND FUNCTIONAL LAYOUT OF THE LINE ESTABLISHED. FABRICATION AND PROCUREMENT OF THE HARDWARE NECESSARY TO SET UP THE CRITICAL ASSEMBLY STATION HAS BEEN INITIATED.	759.0	635.0	113.3	SEP 83	SEP 82
5 81 4267	CONTINUOUS PROCESS FOR GRANULAR COMP B ***** DELINQUENT STATUS REPORT *****	160.0				
5 79 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,224.3	635.3	588.9	JUL 80	JUN 83

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 79 4281 AD1	PROCESS ENERGY INVENTORY AN ENERGY INVENTORY AT IOWA AAP WAS COMPLETED AND A REPORT TITLED PROCESS ENERGY-TASK1, LINE 3 AT IOWA AAP WAS PUBLISHED AND DISTRIBUTED. THE REPORT CONTAINS THE RESULTS OF A DETAILED ENERGY AUDIT OF LINE 3.	242.0	119.9	122.1	JUL 80	SEP 81
5 79 4281 A02	OPTIMIZED INSULATION A FINAL TECHNICAL REPORT IS BEING PREPARED.	193.0	103.0	90.0	OCT 79	MAR 82
5 79 4281 A03	SYNTHETIC NATURAL GAS FOR PROCESS OPERATIONS AN ASSESSMENT WAS PERFORMED TO DETERMINE THE CONDITIONS UNDER WHICH AN INDEPENDENT SOURCE OF COAL GAS FOR RAAP IS WARRANTED. PROCESS SUITABILITY, ENVIRONMENTAL CONSIDERATIONS AND ECONOMICS WERE CONSIDERED. A FINAL TECHNICAL REPORT IS BEING PREPARED.	147.9	128.9	19.0	SEP 79	SEP 82
5 79 4281 A04	ENERGY RECOVERY FROM WASTE HEAT THE VESSEL FOR THE FIRST HEAT PIPE HEAT EXCHANGER WAS PRESSURE TESTED AND THE MANUFACTURER IS ASSEMBLING THE HEAT PIPES INSIDE THE VESSEL. INSULATION OF THE STORAGE TANKS AND THE FOUNDATION FOR THE HEAT EXCHANGERS AT RAAP WAS COMPLETED.	515.0	239.0	276.0	JUN 80	JUN 83
5 79 4281 B04	WASTE HEAT RECOVERY SEVERAL CONCEPTS FOR WASTE HEAT BOILER SYSTEMS WERE TECHNICALLY AND ECONOMICALLY EVALUATED. BASED ON THIS ANALYSIS, A CONCEPT WAS SELECTED AND ENGINEERING DRAWINGS AND EQUIPMENT SPECS WERE PREPARED FOR A WASTE HEAT BOILER SYSTEM AT SCRANTON AAP.	127.0	44.5	81.8	AUG 79	MAR 81
5 80 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,230.5	890.0	311.4	JUN 82	DEC 83
5 80 4281 A01	PROCESS ENERGY INVENTORY A STUDY OF ENERGY EFFICIENT ELECTRIC MOTORS IS BEING CONDUCTED AT KANSAS AAP TO DEVELOP A PLAN FOR REDUCING ELECTRIC ENERGY CONSUMPTION THROUGH USE OF PROPERLY SIZED AND ENERGY EFFICIENT ELECTRIC MOTORS. REPLACEMENT PLAN SCHEDULE IS BEING DEVELOPED.	490.9	359.5	131.4	DEC 81	DEC 82
5 80 4281 A04	ENERGY RECOVERY FROM WASTE HEAT CONCEPTUAL DESIGN FOR THE HEAT RECOVERY SYSTEM WAS COMPLETED. INSTALLATION OF THE GAS TO GAS HEAT EXCHANGER, ASSOCIATED PIPING AND INSTRUMENTATION WAS COMPLETED. EVALUATION OF THE KETENE/AIR HEAT EXCHANGER IS IN PROGRESS.	148.6	113.6	35.0	JUL 81	SEP 82
5 80 4281 AD6	UNCOOLED PRODUCER GAS FOR KETENE MANUFACTURE THE SYSTEM DESIGN, MECHANICAL, ELECTRICAL, AND INSTRUMENTATION HAS PROGRESSED AS FAR AS POSSIBLE WITHOUT FIRM EQUIPMENT DATA. A HOT GAS SAMPLING APPARATUS HAS BEEN DESIGNED AND THE PROCUREMENT OF THE HIGHLY SPECIALIZED EQUIPMENT HAS BEEN INITIATED.	292.4	190.4	102.0	JUN 82	DEC 83

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5 81 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,142.0	548.0	217.6	SEP 84	JUN 84
5 81 4281 A04	ENERGY RECOVERY FROM WASTE HEAT ENGINEERING ANALYSIS FOR THIS TASK HAS BEEN INITIATED. ENERGY CONSUMPTION AND RECOVERY EFFICIENCIES OF CURRENT SOLVENT RECOVERY OPERATIONS ARE BEING REVIEWED.	360.9	203.0	105.6		
5 81 4281 A06	UNCOOLED PRODUCER GAS FOR KETENE MANUFACTURE NO PROGRESS REPORTED.	129.6	76.6	33.6	MAR 84	DEC 83
5 81 4281 A08	CAVITATIONAL REMOVAL OF EXPLOSIVES THE DESIGN OF THE PROTOTYPE SYSTEM THAT INCLUDES WATER RECIRCULATION AND EXPLOSIVE RECOVERY HAS BEEN COMPLETED. ALL MATERIAL IS UN ORDER.	231.0	174.6	25.1	JUN 83	MAR 83
5 81 4281 A10	USE OF BIOMASS AS ENERGY SOURCES AT ARMY AMMUNITION PLANTS HUNTSVILLE DIVISION, CGE, HAS AWARDED CONTRACTS FOR BIOMASS STUDIES AT LONGHORN, INDIANA, TWIN CITIES, AND HULSTON AAPS. THIS PROGRAM WILL PROVIDE THE INDIVIDUAL AAPS WITH A DETAILED REPORT DELINEATING THE AVAILABILITY OF BIOMASS AND ECONOMICS OF USE	263.0		20.5	SEP 83	JUN 83
5 81 4281 A12	POWER PRODUCTION FROM WASTE HEAT PROCESS ENGINEERING EVALUATION WAS INITIATED.	147.8	93.8	40.8	SEP 84	JUN 84
5 82 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS --- JUST FUNDED. NO 301 REQUIRED. ---	45.0				
5 80 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING TECH REPORTS PREPARED FOR DIGL-RP, OCTOL 75/25, M6 AND MUL/PA13D. REPORTS IN CYCLOTOL 70130, JA2, KDX/HMX SENT TO SAFETY FOR APPROVAL. TEST PLAN FOR A-7 PREPARED AND SENT TO SAFETY. TEST PLAN FOR XM37 BEING PREPARED.	407.6	170.5	154.2	MAY 81	JUN 82
5 81 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING TEST PLANS INITIATED.	441.0	170.0	10.3	SEP 83	JUN 83
5 80 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA TECH REPORTS HAVE BEEN PUBLISHED ON TESTING FOR THE 8 INCH M509HE AND 105MM M456 HEAT-T PROJECTILES. TESTING HAS BEEN COMPLETED ON THE M42/M46 GRENADE CLUSTER TRAYS. FIVE M55 DETONATOR INSPECTION MACHINE TEST CONDITIONS HAVE BEEN COMPLETED.	767.0	500.4	261.6	SEP 81	MAR 82
5 81 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA TESTING HAS BEEN COMPLETED ON FIVE HARDWARE CONFIGURATIONS FOR THE 25MM M79ZHE1-T CARTRIDGE. PRELIMINARY TESTS WERE CONDUCTED ON THE 8 INCH M188 PROPELLANT CHARGES. TEST PLAN PREPARED FOR THE 155MM M718/M741 AT PROJECTILE.	620.0	318.0	24.0	JUN 83	JUN 83

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 79 4281 A01	PROCESS ENERGY INVENTORY AN ENERGY INVENTORY AT IUWA AAP WAS COMPLETED AND A REPORT TITLED PROCESS ENERGY-TASK1, LINE 3 AT IUWA AAP WAS PUBLISHED AND DISTRIBUTED. THE REPORT CONTAINS THE RESULTS OF A DETAILED ENERGY AUDIT OF LINE 3.	242.0	119.9	122.1	JUL 80	SEP 81
5 79 4281 A02	OPTIMIZED INSULATION A FINAL TECHNICAL REPORT IS BEING PREPARED.	193.0	103.0	90.0	OCT 79	MAR 82
5 79 4281 A03	SYNTHETIC NATURAL GAS FOR PROCESS OPERATIONS AN ASSESSMENT WAS PERFORMED TO DETERMINE THE CONDITIONS UNDER WHICH AN INDEPENDENT SOURCE OF COAL GAS FOR RAAP IS WARRANTED. PROCESS SUITABILITY, ENVIRONMENTAL CONSIDERATIONS AND ECONOMICS WERE CONSIDERED. A FINAL TECHNICAL REPORT IS BEING PREPARED.	147.9	128.9	19.0	SEP 79	SEP 82
5 79 4281 A04	ENERGY RECOVERY FROM WASTE HEAT THE VESSEL FOR THE FIRST HEAT PIPE HEAT EXCHANGER WAS PRESSURE TESTED AND THE MANUFACTURER IS ASSEMBLING THE HEAT PIPES INSIDE THE VESSEL. INSULATION OF THE STORAGE TANKS AND THE FOUNDATION FOR THE HEAT EXCHANGERS AT RAAP WAS COMPLETED.	515.0	239.0	276.0	JUN 80	JUN 83
5 79 4281 B04	WASTE HEAT RECOVERY SEVERAL CONCEPTS FOR WASTE HEAT BOILER SYSTEMS WERE TECHNICALLY AND ECONOMICALLY EVALUATED. BASED ON THIS ANALYSIS, A CONCEPT WAS SELECTED AND ENGINEERING DRAWINGS AND EQUIPMENT SPECS WERE PREPARED FOR A WASTE HEAT BOILER SYSTEM AT SCRANTON AAP.	127.0	44.5	81.8	AUG 79	MAR 81
5 80 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,230.5	890.0	311.4	JUN 82	DEC 83
5 80 4281 A01	PROCESS ENERGY INVENTORY A STUDY OF ENERGY EFFICIENT ELECTRIC MOTORS IS BEING CONDUCTED AT KANSAS AAP TO DEVELOP A PLAN FOR REDUCING ELECTRIC ENERGY CONSUMPTION THROUGH USE OF PROPERLY SIZED AND ENERGY EFFICIENT ELECTRIC MOTORS. REPLACEMENT PLAN SCHEDULE IS BEING DEVELOPED.	490.9	359.5	131.4	DEC 81	DEC 82
5 80 4281 A04	ENERGY RECOVERY FROM WASTE HEAT CONCEPTUAL DESIGN FOR THE HEAT RECOVERY SYSTEM WAS COMPLETED. INSTALLATION OF THE GAS TO GAS HEAT EXCHANGER, ASSOCIATED PIPING AND INSTRUMENTATION WAS COMPLETED. EVALUATION OF THE KETENE/AIR HEAT EXCHANGER IS IN PROGRESS.	148.6	113.6	35.0	JUL 81	SEP 82
5 80 4281 A06	UNCOOLED PRODUCER GAS FOR KETENE MANUFACTURE THE SYSTEM DESIGN, MECHANICAL, ELECTRICAL, AND INSTRUMENTATION HAS PROGRESSED AS FAR AS POSSIBLE WITHOUT FIRM EQUIPMENT DATA. A HOT GAS SAMPLING APPARATUS HAS BEEN DESIGNED AND THE PROCUREMENT OF THE HIGHLY SPECIALIZED EQUIPMENT HAS BEEN INITIATED.	292.4	190.4	102.0	JUN 82	DEC 83

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PROJ NO.	TITLE + STATUS	AUTH- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 81 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,142.0	548.0	217.6	SEP 84	JUN 84
5 81 4281 A04	ENERGY RECOVERY FROM WASTE HEAT ENGINEERING ANALYSIS FOR THIS TASK HAS BEEN INITIATED. ENERGY CONSUMPTION AND RECOVERY EFFICIENCIES OF CURRENT SOLVENT RECOVERY OPERATIONS ARE BEING REVIEWED.	360.9	203.0	105.6		
5 81 4281 A06	UNCOOLED PRODUCER GAS FOR KETENE MANUFACTURE NO PROGRESS REPORTED.	129.6	76.6	33.6	MAR 84	DEC 83
5 81 4281 A08	CAVITATIONAL REMOVAL OF EXPLOSIVES THE DESIGN OF THE PROTOTYPE SYSTEM THAT INCLUDES WATER RECIRCULATION AND EXPLOSIVE RECOVERY HAS BEEN COMPLETED. ALL MATERIAL IS ON ORDER.	231.0	174.6	25.1	JUN 83	MAR 83
5 81 4281 A10	USE OF BIOMASS AS ENERGY SOURCES AT ARMY AMMUNITION PLANTS HUNTSVILLE DIVISION, CDE, HAS AWARDED CONTRACTS FOR BIOMASS STUDIES AT LONGHORN, INDIANA, TWIN CITIES, AND HULSTON AAPS. THIS PROGRAM WILL PROVIDE THE INDIVIDUAL AAPS WITH A DETAILED REPORT OUTLINEATING THE AVAILABILITY OF BIOMASS AND ECONOMICS OF USE	263.0		20.5	SEP 83	JUN 83
5 81 4281 A12	POWER PRODUCTION FROM WASTE HEAT PROCESS ENGINEERING EVALUATION WAS INITIATED.	147.8	93.8	40.8	SEP 84	JUN 84
5 82 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS --- JUST FUNDED. NO 301 REQUIRED. ---	45.0				
5 80 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING TECH REPORTS PREPARED FOR D1GL-RP, OCTOL 75/25, M6 AND MUL/PA130. REPORTS IN CYCLOTOL 70130, JA2, ROX/HMX SENT TO SAFETY FOR APPROVAL. TEST PLAN FOR A-7 PREPARED AND SENT TO SAFETY. TEST PLAN FOR XM37 BEING PREPARED.	407.6	170.5	154.2	MAY 81	JUN 82
5 81 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING TEST PLANS INITIATED.	441.0	170.0	10.3	SEP 83	JUN 83
5 80 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA TECH REPORTS HAVE BEEN PUBLISHED ON TESTING FOR THE 8 INCH M509HE AND 105MM M456 HEAT-T PROJECTILES. TESTING HAS BEEN COMPLETED ON THE M42/M46 GRENADE CLUSTER TRAYS. FIVE M55 DETONATOR INSPECTION MACHINE TEST CONDITIONS HAVE BEEN COMPLETED.	767.0	500.4	261.6	SEP 81	MAR 82
5 81 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA TESTING HAS BEEN COMPLETED ON FIVE HAWKARE CONFIGURATIONS FOR THE 25MM M792HEI-T CARTRIDGE. PRELIMINARY TESTS WERE CONDUCTED ON THE 8 INCH M188 PROPELLANT CHARGES. TEST PLAN PREPARED FOR THE 155MM M718/M741 AT PROJECTILE.	620.0	318.0	24.0	JUN 83	JUN 83

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 80 4291	BLAST EFFECT IN THE MUNITION PLANT ENVIRONMENT PREPARED REPORT ON ALTERNATE CONSTRUCTION MATERIALS, SUCH AS PRE-STRESSED CONCRETE, BLOCK, CLAY TILE, BRICK, WOOD, METAL PANELS FOR USE IN THE BLAST ENVIRONMENT.	100.0		87.4	AUG 82	JAN 82
5 81 4298	EVALUATION OF DIMETHYLNITROSAMINE DISPOSAL ON HAAP B-LINE SAMPLES OF DMN IN WATER AND RECRYSTALLIZED ROX/HMX IN WATER HAS BEEN EVALUATED WITH UV AND CATALYTIC HYDROGENATION. GAS CHROMATOGRAPHY AND MASS SPECTROSCOPY ANALYSES HAVE SHOWN NO INDICATION OF FORMATION OF TOXIC OR HAZARDOUS COMPOUNDS.	471.5	249.0	145.5	DEC 82	DEC 82
5 80 4309	PROPELLANT PROCESS DEVELOPMENT FOR 120MM TANK AMMUNITION SEE SUBTASKS FOR WORK STATUS.	3,726.0	3,324.0	402.0	JUN 82	JUN 83
5 80 4309 01	DEVELOP MFG METHODS FOR STICK AND JA-2 PROPELLANT STUDIES ON THE 4-IN. PRESS AND MFG OF PROFILERS WERE COMPL. DECON/SPENT ACID BENCH SCALE STUDIES WERE COMPLETED. 15 INCH PRESS STRAND TAKE AWAY EQUIPMENT COMPLETED. MFG OF PILOT LOTS WAS INITIATED.	1,746.0	1,592.0	154.0	DEC 82	JUN 83
5 80 4309 02	EXPLOSIVE LOADING OF 120MM HEAT-MP PROGRAM WAS CHANGED FROM CAST TO PRESS LOADING. CONCEPT DRAWINGS WERE PREPARED FOR MHE, PRESS TOOLING, PELLET TOOLING, AND RECONSOLIDATION TOLLING. EFFORT CONTINUES TO DEVELOP PRESS LOADING PROCEDURES AND TECHNIQUES.	273.0	186.0	87.0	DEC 82	JUN 83
5 80 4309 03	ASSEMBLY PROCESS DEVELOPMENT BONDING ALIGNMENT/ASSEMBLY CARTS WERE DESIGNED AND DELIVERED. HONEYWELLS ADHESION REMOVAL METHOD FOR XS ADHESIVE WAS REVIEWED BY IOWA AAP. DESIGNS FOR PROP FEED SYS AND THE AUTOMATED ASSY OF BASE CASE TO THE CARTRIDGE CASE WERE INITIATED.	685.0	597.0	88.0	JUN 82	JUN 83
5 80 4309 06	PROCESS FOR MOLDING REAR SEAL, 120MM APDS COMPLETED ASSEMBLY OF 84 KE ROUNDS, 30 SLUG AND 54 PROJECTILE, WITH PREMOLDED AND BONDED SEALS. SUCCESSFULLY CONDUCTED INTERIOR BALLISTIC TESTS.	919.0	874.0	45.0	JUN 82	JUN 83
5 80 4309 09	INVESTIGATE FORMING + HEAT TREAT METHODS FOR CURE, APDS DUE TO AERO-JET DEALINING TO BE A SUBCONTRACTOR TO HONEYWELL, NMI WAS SELECTED AS SUBCONTRACTOR. DUE TO THE LACK OF WORKING OVENS, THE SOW COULD NOT BE EXECUTED. OVENS TO CONDUCT HEAT TREATING STUDIES ARE CURRENTLY BEING DEBugged.	103.0	75.0	28.0	JUN 82	JUN 83
5 81 4309	AMMUNITION FOR THE 120MM TANK MAIN ARMAMENT SEE SUBTASKS FOR WORK STATUS.	3,522.0	2,992.0	116.3	JUN 83	JUN 83

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 81 4309 D1	MFG METHODS FOR STICK + JA-2 PROPELLANT GDCO FUNDING RECEIVED. DESIGN CRITERIA FOR THE PROTOTYPE DEGDN SPENT ACID HANDLING AND RECOVERY SYS WAS PREPARED. PURCHASE ORDERS AND CONTRACTS ARE BEING PREPARED. HONEYWELL WAS AUTHORIZED TO PURCHASE A SWISS CUTTER.	981.0	792.0	34.8	JUN 83	JUN 83
5 81 4309 D2	EXPLOSIVE LOADING OF 120MM HEAT-MP-T HONEYWELL CONTRACT WAS AMENDED AND WORK ON LOADING PARAMETERS WAS ESTABLISHED. TOOLING AND PRESS REQUIREMENTS WERE DEVELOPED AND EXPLOSIVE LOADING CHARACTERISTICS WERE OUTLINED.	516.0	438.0	37.3	JUN 83	JUN 83
5 81 4309 D3	ASSEMBLY PROCESS DEVELOPMENT CONTRACT MODIFICATION WAS NEGOTIATED AND SIGNED. WORK WAS STARTED ON DESIGN OF AUTOMATED PRIMER TORQUING AND ELECTRICAL TESTING EQUIPMENT.	920.0	810.0	33.0	JUN 83	JUN 83
5 81 4309 D4	COMBUSTIBLE CARTRIDGE CASE PROCESS - 120MM WORK WAS INITIATED ON THE DESIGN OF A CONTINUOUS MANUFACTURING PROCESS, SAFETY AND HAZARDS ANALYSIS, POLLUTION ABATEMENT ANALYSIS, AND DEVELOPING MHE SPECIFICATIONS.	215.0	185.0	8.2	JUN 83	JUN 83
5 81 4309 D5	FORMING OF SA80T SEGMENTS TO NET SHAPE ON APFSDS AMMO ALCOA IS THE FORGING HOUSE SELECTED BY FLINCHBAUGH TO PERFORM THE FORGING WORK REQUIRED. FORGING STUDY AND TENSILE SPECIMEN LOCATION WORK WAS COMPLETED AND THE DESIGN OF THE FORGING DIE WAS INITIATED.	466.0	413.0	0.7	JUN 83	JUN 83
5 81 4309 09	INVESTIGATE FORMING + HEAT TREAT METHODS F/CURE, APDS NEGOTIATIONS BETWEEN HONEYWELL AND AERO-JET FOR A MACHINING STUDY TO REDUCE MACHINING CYCLE TIME ARE IN PROGRESS. AEROJET HAD RECONSIDERED THEIR EARLIER SUBCONTRACTING POSITION IN ENTERING THESE NEGOTIATIONS.	313.0	263.0	0.7	JUN 83	JUN 83
5 81 4309 12	INJECTION MOLDING OF XM829 OBTURATOR XM829 DESIGN DATA FOR THE OBTURATOR WAS GIVEN TO HONEYWELL. VENDORS TO DO THE MOLDING WORK WERE SURVEYED AND H1 HAS NAKKURED THE FIELD TO TWO.	111.0	91.0	1.6	JUN 83	JUN 83
5 79 4310	DMSO RECRYSTALLIZATION OF HMX/RDX INTERIM QUALIFICATION AND END ITEM LONG TERM STORAGE TESTS WERE ESSENTIALLY COMPLETED ON DMSO RECRYSTALLIZED EXPLOSIVES. RESULTS SHOW NO ADVERSE EFFECTS DUE TO DMSO.	490.7	335.7	154.0	DEC 81	JUN 82
5 80 4310	DMSO RECRYSTALLIZATION OF RDX/HMX AN INITIAL DRAFT OF A TECHNICAL REPORT ON THE DMSO TEST PROGRAM WAS PREPARED. ADDITIONAL FUNDING WAS RECEIVED TO CONDUCT TOXICITY TESTS. A TEST PLAN WAS FORMULATED AND CONTRACT MADE WITH AMBRDL TO CONDUCT THE TESTS.	354.0		256.0	JUN 81	DEC 82

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PRGJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 77 4311	DEVELOP AUTOMATED PRODUCTION EQUIPMENT FOR XM 692 DEVELOPMENT WORK WAS CONTINUED ON THE OVERLAY/KILL MECHANISMS. DETONATING CORD WRAP MACHINES CONTROL CIRCUIT PROBLEM WAS CORRECTED. WORK CONCENTRATED TO RAISE EFFICIENCY TO AN ACCEPTABLE LEVEL.	1,452.9	1,189.3	260.4	AUG 78	JUN 82
5 81 4311	DEVELOP AUTOMATED PRODUCTION EQUIPMENT FOR M92 FINAL DEBUGGING OF THE OVERLAY/KILL MECHANISM AND CORD WRAP MACHINES WAS CONTINUED. FINAL ASSEMBLY ACTIVITIES ARE UNDER WAY AT THE MACHINE BUILDERS FACILITY. ALL SUPPORT CONTRACTS WITH LOUISIANA AAP HAVE BEEN NEGOTIATED AND WORK HAS BEGUN.	460.0	424.0		SEP 82	SEP 82
5 80 4312	INJECTION MOLDING FOR PRODUCTION EXPLOSIVE LOADING THE MODEL 2 INJECTION LOADING SYSTEM WAS REDESIGNED TO LOAD ACM SUBMUNITIONS. A PROCESS WAS DEVELOPED TO INJECTION LOAD THE ACM MUNITIONS WITH 75/25 OCTOL. THE ACCEPTANCE RATE WAS 99 PERCENT.	279.0	125.0	154.0	JUL 81	MAR 82
5 80 4322	CHARACTERIZE OURMENCY EFFECT ON ELECTRONIC EQUIPMENT AN IMPLEMENTATION PLAN HAS BEEN ESTABLISHED. FUNDING DECISIONS AND PRIORITIES ARE BEING REVIEWED BY HQ, ARRCOM. THE METHODOLOGY IS TARGETED FOR USE IN POTENTIALLY 2 TO 14 ARMY AMMUNITION PLANTS.	515.0	317.1	162.9	APR 82	MAR 82
5 79 4335	ALTERNATIVE PROC FOR TITANIUM GYROSCOPE COMPONENTS-COPPERHEAD ALL PREVIOUS DESIGN AND PRODUCTION PROBLEMS HAVE BEEN RESOLVED. MACHINED COMPONENTS ARE BEING ASSEMBLED FOR ENVIRONMENTAL AND CANISTER TESTS.	457.8	385.8	16.6	FEB 81	JUN 82
5 78 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS DELIVERY OF THE CONICELL WAS COMPLETED.	819.9	729.9	90.0	APR 79	MAR 82
5 79 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS NO CHANGE SINCE LAST REPORTING PERIOD.	846.5	777.5	69.0	NOV 80	JUN 82
5 80 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS THE EXTENT OF CHANGES TO THE PRESENT NITROCELLULOSE SPECIFICATION IS BEING DETERMINED. PREPARATIONS FOR INERT TESTING OF THE EQUIPMENT IS BEING MADE.	583.0	413.0	170.0	DEC 81	DEC 83
5 81 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS HAZARDS ANALYSIS AND TESTING HAVE IDENTIFIED ESSENTIAL SAFETY MODIFICATIONS TO THE EQUIPMENT. THE PURCHASE OF REQUIRED VALVES AND PIPING HAS BEEN INITIATED.	765.0	220.0	99.2	MAR 83	SEP 83
5 81 4344	ESTAB OF WASTE DISPOSAL TECH FOR M687 BINARY PROJECT CONTINUED EFFORT ON EQUILIBRIUM CURVE DEVELOPMENT. INITIATED EFFORTS ON THE PREPARATION OF PILOT EVALUATION	200.0	85.0	73.0	DEC 82	NOV 83

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 82 4344	ESTAB OF WASTE DISPOSAL TECH FOR M687 BINARY PROJECT --- JUST FUNDED. NW 301 REQUIRED. ---	105.0				
5 78 4349	MODERNIZATION OF PRESS LUBING FOR HEP PROJECTILES ***** DELINQUENT STATUS REPORT *****	323.0		250.0	JUN 80	JUN 82
5 80 4357	NONDESTRUCTIVE TEST EQUIP F/LARGE CALIBER MUNITIONS F/M483A1 SCOPE OF WORK WAS PREPARED + FORWARDED TO ARRCOM. THE BIODER PROPOSALS WERE EVALUATED AND THE CONTRACT WAS AWARDED. THE SYSTEM PRELIMINARY DESIGN WAS APPROVED AND THE FABRICATION HAS STARTED.	556.0	452.0	53.0	JUN 83	FEB 82
5 81 4364	ON-LINE BIO SENSORS TO MONITOR MIXED WASTE STREAMS SITE WAS BEING PREPARED. CONTRACTOR SUFFERED DAMAGE TO SYSTEM COMPONENTS DUE TO MAINTENANCE WORK BY RAAP PERSONNEL. TIME WAS SPENT RECTIFYING DAMAGES.	260.0	213.0	14.0	JUN 83	JUN 83
5 80 4411	SMALL CALIBER AMMUNITION PROCESS IMPROVEMENT PROGRAM BEARING ANALYSIS SYSTEM HAS BEEN INSTALLED ON CASE SUBMODULE NO. 2. THE SIX MONTH EVALUATION WILL BE INITIATED IN JANUARY 1982 WHEN THE 5.56MM BALL PRODUCTION IS SWITCHED TO SCAMP LINE 2. THE SCOPE AND FUNDING OF THIS EFFORT HAS BEEN REDUCED.	280.0	190.0	90.0	DEC 83	DEC 83
5 80 4417	PROCESS TECHNOLOGY FOR BLENDING RP SMOKE COMPOSITIONS FEASIBILITY STUDIES ON AIRMIX MIXER COMPLETED. MIXER WAS DETERMINED TO BE SAFE AND EFFECTIVE. MIXER PARTS WERE INSTALLED FOR MORE RELIABLE OPERATION. INTERIM REPORT WAS PREPARED.	115.0		115.0	MAY 81	JAN 82
5 81 4417	PROCESS TECHNOLOGY FOR BLENDING RP SMOKE COMPOSITIONS OPTIMIZATION STUDIES FOR BLENDING PROCEDURES WERE INITIATED.	165.0		11.0	SEP 82	SEP 82
5 78 4444	BOOY FOR M42/M46 GRENADE CONTRACTS WERE AWARDED TO DAYRON CORP. AND MB ASSOCIATES.	626.0	512.0	113.2	JUN 79	MAR 82
5 79 4444	BOOY FOR M42/M46 GRENADE DAYRON DELIVERED 200 M42/M46 GRENADE BOOTIES WHICH WERE ACCEPTED.	563.0	397.7	121.4	SEP 80	DEC 83
5 81 4449	PROCESS IMPROVEMENT FOR COMPOSITION C-4 EFFORTS TO EVALUATE GROUND ESTANE IN PBX-0280 AND LX14-D BATCHES USING DIRECT COATING PROCESS WERE BEGUN. RESPONSES TO REQUESTS FOR VENDOR QUOTES TO GRIND THE ESTANE ARE PENDING FROM 4 SOURCES.	290.0	191.0	23.3	JUN 83	JUN 83
5 79 4454	AUTO INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL-CAM SEE PROJECT 5 81 4454 FOR STATUS. THE FUNDING STATUS FOR THIS PORTION OF THE EFFORT HAS BEEN COMBINED WITH THE FY81 AND IS DISPLAYED WITH THE FY81 PROJECT INFORMATION.	728.0			DEC 81	MAR 83

S U M M A R Y P R O J E C T S T A T U S R E P O R T
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 80 4454	AUTO INSP DEVICE EXPLDS CHARGE SHELL (AIDECS) SEE PROJECT 5 81 4454 FOR STATUS. THE FUNOING STATUS FOR THIS PORTION OF THE EFFORT HAS BEEN COMBINED WITH THE FY81 AND IS DISPLAYED WITH THE FY81 PROJECT INFORMATION.	1,298.0			APR 82	MAR 83
5 81 4454	AUTO INSP DEVICE EXPLDS CHARGE SHELL (AIDECS) SEE SUBTASKS BELOW FOR PROJECT STATUS.	3,911.0	3,175.0	657.0	OCT 82	MAR 83
5 81 4454 01	AUTOMATIC INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL THE SYSTEM IS OPERATIONAL AT LUCKHEED. ADDITIONAL FUNDS HAVE BEEN REQUESTED TO UPGRADE THE ANALOG TO A DIGITAL CONVERTER IN THE GRINNEL IMAGE MEMORY, SHIP THE UNIT TO ARRAOCOM FOR EVALUATION AND INSTALL AT MILAN AAP FOR PROVE-OUT.				MAY 82	JUN 82
5 81 4454 02	AUTOMATIC X-RAY INSPECTION SYSTEM (AXIS) MODIFICATIONS OF THE 4 MEV LINATRON HAS BEEN COMPLETED. FAB + ASSY OF THE CONTROL, INSP + DATA PROCESSING SUBSYSTEM HAS BEEN COMPLETED. THE FAB OF THE MECHANICAL HANDLING SUBSYSTEM HAS STARTED. PARTIAL INTEGRATION OF THE SUBSYSTEMS HAS BEEN COMPLETED				OCT 82	MAR 83
5 82 4454	AUTO INSP DEVICE EXPLDS CHARGE SHELL (AIDECS) --- JUST FUNDED. NU 301 REQUIRED. ---	312.0				
5 80 4462	FORCED AIR DRY FOR MULTI-BASED PROPELLANTS FIVE DRYING TEST RUNS OF THE M00 FAD RAY AND POLLUTION ABATEMENT PROCESS WERE SUCCESSFULLY CONDUCTED. 16% MORE PROPELLANT WAS DRIED WITH 70% LESS STEAM ENERGY THAN IN A CONVENTIONAL BAY. 99% NG AND 95% SOLVENTS WERE REMOVED FROM THE AIR STREAM.	850.0	509.0	195.3	SEP 80	JUL 82
5 79 4466	EVAL TNT, CYCLOTUL, GCTOL IN MELT-POUR FACILITY INSTALLATION OF INSTRUMENTATION AND TNT SOLIOS MIXER WAS COMPLETED. INERT TESTS FOR THE TNT MIXER SYSTEM FOR LIQUID FLOW RATES AND CALIBRATION TESTS FOR THE WEIGH FEEDER WERE COMPLETED.	699.7	152.3	433.4	APR 81	JUN 82
5 79 4469	AUTOMATIC INSERTION OF GRENADE LAYERS THE GRENADE INSERTION CONTRACT WAS MODIFIED TO INCLUDE ADDITIONAL STUDY FOR ADDING AN INSPECTION FOR THE PACKABLE SLIDER LOCK. THE EFFORT ON THE GRENADE PREPACK MACHINE WAS TERMINATED. THIS DEVELOPMENTAL EFFORT WAS UNSUCCESSFUL.	1,150.0	937.0	183.2	JAN 80	JUN 82
5 80 4469	AUTOMATIC INSERTION OF GRENADE LAYERS THE GRENADE INSERTION SYSTEM FABRICATION ASSEMBLY AND DEBUGGING WORK WAS COMPLETED. THE ACCEPTANCE TEST WAS SUCCESSFULLY RUN AT THE CONTRACTORS FACILITY.	350.0	302.3	34.1	JAN 81	JUN 82

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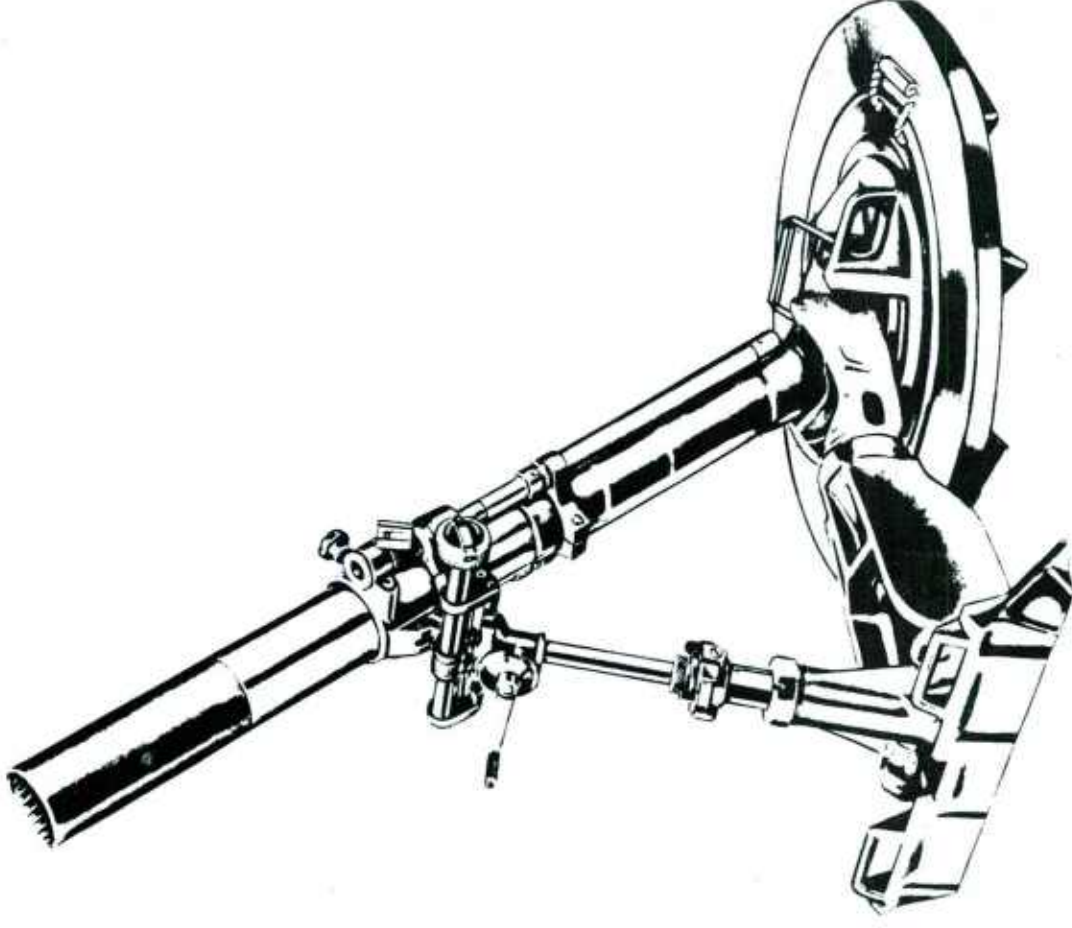
PROJ NO.	TITLE + STATUS	AUTHOR- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 80 4480	HIGH SPEED HEAD TURN TOOL MOD F/SC AMMU PROO BLANK KNURLING ATTACHMENT FAILED ON-LINE EVAL. CORRECTIVE ACTION UNDEKWAY. WORK ORDERS PREPARED TO MODIFY PRIMER INSERT SUBMODULE CASE FEEDER TO HANDLE M200 CARTRIDGE CASES.	184.0	157.0	10.6	SEP 82	DEC 82
5 80 4484	IMPR HI-SPEED WATERPROOFING APPL F/SC AMMU LAKE CITY AAP WAS AWARDED THE FIRST PHASE OF THE CONTRACT. A COST ESTIMATE FOR THE FINAL TEST PHASE IS BEING PREPARED AND AWARD IS EXPECTED BY JANUARY, 1982. THE PROJECT WILL DEVELOP AN IMPROVED PRIMER LACQUER AND CASE MOUTH WATERPROOFING SYSTEM.	126.0	93.0	3.0	MAR 82	DEC 82
5 79 4498	CONSOLIDATION + AUTOMATIC ASSEMBLY OF SMALL MINES SOLDERING MACHINE IS COMPLETE AND INSTALLED AT IOWA ARMY AMMUNITION PLANT. UNIT WILL BE PROVED OUT IN JAN 82.	572.0	480.0	92.0	SEP 80	JUN 82
5 80 4498	DEV METH FOR CONSOL AND AUTO ASSY OF SMALL MINES CONTRACTOR HAS DESIGNED AND IS MANUFACTURING EQUIPMENT TO ASSEMBLE MINES. FIXTURES HAVE ALSO BEEN DESIGNED AND ARE BEING FABRICATED.	392.0	100.0	171.0	DEC 81	SEP 82
5 81 4503	NEW PROCESS FOR S&S TRACER AMMUNITION A CONTRACT WAS AWARDED TO LAKE CITY TO DEMONSTRATE CONVENTIONAL MANUFACTURE OF THE S&S TRACER BULLET. THE CONTRACT HAS PROGRESSED TO THE TOOL AND MACHINE PART FABRICATION STAGE. UP TO 10,000 BULLET JACKET CUPS HAVE BEEN PROCESSED.	500.0	402.4	56.2	AUG 82	AUG 82
5 81 4506	5.56 MM CARTRIDGE LINKING SYSTEM THE STATEMENT OF WORK WAS COMPLETED AND CONTRACT AWARDED TO REMINGTON ARMS CORPORATION. REMINGTON HAS COMPLETED THE REVIEW AND SELECTION OF SUBCONTRACTOR PROPOSALS.	558.0	383.0	52.0	JAN 83	JAN 83
5 79 4508	PROCESS IMPROVEMENT OF PRESSABLE RDX COMPOSITIONS THE INSTALLATION AND CHECKOUT OF THE WYSSMONT DRYER, ORIGINALLY INCLUDED IN THE FY79 SOW, WERE RESCHEDULED FOR FUTURE YEARS. AS A RESULT, \$91K IN FY79 WAS DEOBLIGATION. FINAL REPORT IS NOW BEING PREPARED.	266.1	198.1	68.0	DEC 79	JUN 82
5 80 4508	PROCESS IMPROVEMENT OF PRESSABLE RDX COMPOSITIONS INDENIFICATION LIABILITY WITH USE OF WYSSMONT DRYER STILL UNRESOLVED. EIMCO FILTER SUCCESSFULLY INSTALLED AND CHECKED OUT FOR USE IN DEMATERING COMP A. NOMINAL CLASS 1 RDX PROCESS FOR COMP A-5 WAS TESTED AND HAS REDUCED COST AND INCREASED PUN CAPA8.	505.8	333.8	140.0	APR 82	MAR 83
5 81 4553	PROCESS PARAMETERS FOR COLD DRAWING ALLOY STEELS THE SOW HAS BEEN WRITTEN AND FURNISHED TO ARCCUM. GOOD OPERATOR IS PREPARING COST ESTIMATE PRELIMINARY TO CONTRACT AWARD. CONTRACT VALUE ESTIMATED BY ARRADCOM AT 195,000 DOLLARS.	216.0		1.1	DEC 82	DEC 82

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		(\$000)	(\$000)	(\$000)		
5 81 4555	INFRARED MONITORING OF PYROTECHNIC BLENDING NO WORK INITIATED.	250.0			JUN 82	JUN 83
5 81 4558	THERMAL DEHYDRATION PROCESS SAFETY AND OPERATIONAL REDESIGN ***** DELINQUENT STATUS REPORT *****	148.0				
5 77 6200	SMALL CALIBER AMMO PROCESS IMPROVEMENT PROGRAM ***** DELINQUENT STATUS REPORT *****	1,218.0	1,087.0	86.9	FEB 78	JUN 82
5 77 6494	NEW CONCEPTS FOR MFR AND INSPECT OF 20MM 25MM 30MM AMMO ALL REMAINING TASKS HAVE BEEN CANCELLED. FINAL REPORTS ARE BEING PREPARED OR ARE WRITTEN FOR THE VARIOUS SUBTASKS.	1,079.0	963.0	116.0	AUG 79	JUN 82
5 75 6494	MANUFACTURE AND INSPECTION OF CAL.50, 20MM, AND 30MM AMMO THE FUZE TO PROJECTILE ASSEMBLY PORTION WAS TERMINATED. THE EQUIPMENT IS BEING SHIPPED TO OLIN CORP. AN APPROVED FINAL REPORT HAS BEEN RECEIVED AT ARRAOCOM.	3,760.0	2,256.0	1,504.0	DEC 76	JUN 82
5 76 6494	MANUFACTURE AND INSPECTION OF CAL.50, 20MM, AND 30MM AMMO HEL- THIS TASK WAS NOT MENTIONED IN THIS STATUS REPORT, HOWEVER THE EFFORT HAS BEEN CANCELLED. A FINAL REPORT SHOULD BE PREPARED.	1,196.0	778.0	377.0	OEC 77	JUN 82
5 77 6494	NEW CONCEPTS FOR MFR AND INSPECT OF 20MM 25MM 30MM AMMO BALLISTIC TEST SUBMODULE- REDUCTION IN PLANNED PRODUCTION FOR 20MM AMMUNITION MAKES IT UNECONOMICAL TO PROVIDE ADDITIONAL FUNDS TO CONTINUE THE WORK. ALL WORK HAS BEEN DISCONTINUED.	573.0	46.0	527.0	JUN 79	JUN 82
5 78 6596	BALL PROPELLANT PILOT PLANT STUDIES ***** DELINQUENT STATUS REPORT *****	1,618.0	1,475.0	143.0	JAN 79	JUN 82
5 76 6599	2ND GENER ELEC-OPTA PROJ CAVITY INS EQ FOR 155-175MM PROJUS THE INSPECTION SYSTEM WAS DELIVERED TO ARRAOCOM IN JUNE 1981. A LATE START 1982 MMT PROJECT IS BEING PREPARED TO COMPLETE THE SYSTEM PROVE OUT USING PRODUCTION PROJECTILES WITH KNOWN FLAWS.	198.0	180.1	16.4	SEP 77	FEB 83
5 79 6634	MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJECTILE INITIATE TESTING MILESTONE WAS COMPLETED. PRELIMINARY SALT BATH MELTING OF CHIPS IS UNDERWAY.	542.0	334.0	200.0	AUG 80	JUN 83
5 79 6693	BALL PROPELLANT DETERRENT COATING-CAM RELATED ***** DELINQUENT STATUS REPORT *****	171.0	27.5	132.4	NOV 80	JUN 82
5 81 6716	DEV COMP-A10 MODEL OF FORMING OPERATIONS FOR ARTILLERY MPTS CONTRACT NEGOTIATIONS ARE UNDERWAY.	157.0	131.0	6.0	OEC 82	JUN 83

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5 79 6736	TECH READINESS ACCEL THRU COMPUTER INTEGRATED MFG (CAD) SEE THE WORK ACCOMPLISHED UNDER SUBTASKS 01 AND 02.	417.0	294.0	102.0	SEP 79	JUN 82
5 79 6736 01	TECH READINESS ACCEL THRU COMPUTER INTEGRATED MFG (TRACIM) A FORMAT FOR A COMPUTER DATA BASE FOR RECALL OF MANUFACTURING DATA AND INFORMATION WAS ESTABLISHED. THE UGIVE COMPONENT OF THE 155MM M483 PROJECTILE AS MANUFACTURED AT ONE SPECIFIC PLANT WAS CHOSEN TO DEMONSTRATE THE DATA BASE CAPABILITY.	277.0	154.0	102.0	JUN 82	JUN 82
5 79 6736 02	DATA ACQUISITION FEASIBILITY STUDY A PROTOTYPE MANUFACTURING CONTROL SYSTEM UTILIZING DATA ACQUISITION TECHNIQUES WAS EVALUATED. AN ANALYSIS OF DOWN TIME, REJECT TRENDS, DAILY PRODUCTION RATES, AND MACHINE UTILIZATION WAS PERFORMED. A FINAL REPORT HAS BEEN PREPARED.	140.0	140.0		JUN 82	JUN 82
5 80 6736	TECH READINESS ACCEL THRU COMPUTER INTEGRATED MFG (CAM) DEVELOPMENT OF A PROTOTYPE COMPUTER DATA BASE SYSTEM WAS ACCOMPLISHED. A DEMONSTRATION OF THE PROTOTYPE SYSTEM WAS HELD IN DEC 81. A PRESENTATION OF PROJECT RESULTS IS SCHEDULED FOR FEB 82. A DRAFT OF THE FINAL REPORT IS BEING REVIEWED.	340.0	184.0	104.0	OCT 81	JUN 82
5 80 6738	ULTRA-HIGH SPEED METAL REMOVAL, ARTILLERY SHELL PROJECTILE FURTINGS HAVE BEEN DELIVERED TO CONTRACTOR FOR MACHINING TESTS.	280.6	150.0	70.9	AUG 81	SEP 82
5 78 6774	MANUFACTURING METHODS FOR APOS PROJECTILE CONDUCTED A PROGRAM OF TESTING TO ADJUST ALL FOUR OF THE MOLD CAVITIES TO MORE SIMILAR PROCESS CHARACTERISTICS AND OBTAIN IMPROVED AMMUNITION DISPERSION RESULTS IN BALLISTIC TESTING.	300.0	249.0	51.0	NOV 79	JUN 82
5 79 6774	MANUFACTURING METHODS FOR APOS PROJECTILE THE PROCESS, SUPPORT EQUIPMENT, TOOLING AND FACILITY LAYOUT TO PRODUCE 75,000 PROJECTILES/MU HAS BEEN DEFINED. ALL TASKS EXCEPT APPROVAL OF THE FINAL REPORT ARE COMPLETED. MM+T EQUIPMENT WAS TRANSFERRED TO THE PRODUCTION CONTRACT AND IS OPERATIONAL.	895.0	711.8	136.7	NOV 79	JUN 82



ARMAMENT R&D COMMAND
ARMAMENT MATERIEL READINESS COMMAND
(ARRADCOM, ARRCOM)
(WEAPONS)

A R R C O M - A R R A D C O M (WEAPONS)

CURRENT FUNDING STATUS, 2ND CY81

FISCAL YEAR	NU. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	* * F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	* * F U N D I N G E X P E N D E D (\$)
76	1	350,000	285,200	285,200 (100%)	64,800	45,900 (70%)
77	0	0	0	0 (0%)	0	0 (0%)
77	4	2,143,300	1,527,300	1,204,100 (78%)	616,000	576,000 (93%)
78	4	806,000	486,400	412,600 (84%)	319,600	304,500 (95%)
79	9	1,221,000	757,900	604,300 (79%)	463,100	442,800 (95%)
80	25	5,702,000	2,131,100	434,800 (20%)	3,570,900	1,698,700 (47%)
81	31	6,131,200	1,681,400	109,400 (6%)	4,449,800	769,200 (17%)
82	8	275,000	0	0 (0%)	275,000	0 (0%)
TOTAL	82	16,628,500	6,869,300	3,050,400 (44%)	9,759,200	3,837,100 (39%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 41% INHOUSE REMAINING 58%

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6 80 39D1	MANUFACTURE OF FLUIDIC AMPLIFIERS BY COLD FORMING (PHASE 2) ***** DELINQUENT STATUS REPORT *****	59.0	59.0		AUG 81	JUN 82
6 77 72D1	ARTILLERY WEAPON FIRING TEST SIMULATOR INSTALLATION OF THE EQUIPMENT IS COMPLETE. PREPARATION OF THE FINAL REPORT IS UNDERWAY.	82D.0	699.6	114.1	OCT 78	APR 82
6 79 7317	OPTIMIZATION OF STEP THREAD TOOLING PROJECT CONTINUATION REQUEST APPROVED. CONTRACTOR RECOMMENDATIONS HAVE BEEN RECEIVED AND ARE BEING ANALYZED.	75.0	5.2	38.1	NOV 80	APR 82
6 79 7482	MODIFIED RIBBON RIFLING GENERATING MACHINE SCOPE OF WORK FOR THIS PROJECT HAS CHANGED SIGNIFICANTLY. EXISTING EQUIP WILL NOT BE MODIFIED. INSTEAD, IT IS INTENDED TO PURCHASE A NEW NC RIFLER. THIS PROJECT WILL BE USED TO PERFORM A FEASIBILITY STUDY.	76.0		22.7	APR 81	AUG 82
6 79 7555	DYNAMIC PRESSURIZATION STAND, SLIDE BLOCK BREECH MECH THE INSTRUMENTATION PACKAGE WAS ACCEPTED IN OCT 1981. THE SYSTEM IS SCHEDULED TO BE IMPLEMENTED INTO THE PRODUCTION ENVIRONMENT IN JAN 1982.	121.0	49.2	62.4	SEP 81	JAN 82
6 76 758D	PILOT AUTO SHOP LOADING AND CONTROL SYSTEM- CAM THE USER ACCEPTANCE TESTING OF THE LAST PROJECT PHASE WAS COMPLETED. ALL MODULES ARE OPERATIONAL + BEING USED. TOTAL IMPLEMENTATION OF THE MATRL RMTS + COST MONITORING + CONTNL MODULES WILL OCCUR GRADUALLY. THE PROJECT IS TECHNICALLY COMPLETE.	35D.0	285.2	45.9	SEP 78	MAR 82
6 79 7605	CHEMICALLY BONDED SAND FOR CLOSE TOLERANCE CASTING VERIFICATION OF THE INSTALLED CORE MAKING SYSTEM WAS DONE BY A CONSULTANT AND PROBLEMS CORRECTED. THE PD FOR THE LARGE MOLDING SYSTEM HAS BEEN SENT TO POTENTIAL VENDORS. A TECH REPORT HAS BEEN PREPARED ON THE PROJECT.	127.0	22.0	104.9	MAR 80	MAR 82
6 80 7605	CHEMICALLY BONDED SAND FOR CLOSE TOLERANCE CASTING WORK CONTINUED ON COMPLETING PROVE OUT ON THE SMALL FURAN CORE MAKING SYSTEM.	252.8		130.1	FEB 82	APR 83
6 78 771D	INJECTION MOLDING OF RUBBER OBTURATOR PADS THE MOLDS WERE MODIFIED TO ELIMINATE THE PROBLEM IN ACHIEVING ACCEPTABLE CONFIGURATION IN THE 4 VENT AREAS. PADS HAVE BEEN FABRICATED FOR TESTING OF LOW TEMPERATURE SEALING CAPABILITY AND LIVE ROUND TEST FIRING. A TECHNICAL REPORT HAS BEEN WRITTEN.	77.0		75.9	JUL 79	JUN 82

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6 77 7714	MULTI-MODE WEAPON & MOUNT IMPEDANCE SIMULATOR (CAM) PROBLEMS WITH AN INSTABILITY OPERATION OF THE SIMULATOR WERE SOLVED. ACCEPTANCE TESTING WAS SUCCESSFUL. TRAINING IN OPERATION AND MAINTENANCE WAS PROVIDED.	360.0	245.0	89.4	OCT 79	APR 82
6 81 7724	GROUP TECHNOLOGY OF WEAPON SYSTEMS (CAM) THE FEASIBILITY OF IMPLEMENTING AUTOMATED PROCESS PLANNING SOFTWARE IS BEING DETERMINED. THE PLAN IS TO USE THE MIPLAN SYSTEM.	180.0	17.3	4.5	JUN 83	JUN 83
6 79 7726	APPLICATION OF COLD AND WARM ROTARY FORGING ***** DELINQUENT STATUS REPORT *****	108.0	33.6	15.3	SEP 80	JUN 82
6 80 7730	MANUFACTURE OF SPLIT RING BREECH SEALS WORK CONTINUES ON THE KINKING MACHINE. EDM SPLITTING OF THE RING HAS BEEN JUDGED IMPRACTICAL AND SPECS FOR A SOPHISTICATED ABRASIVE CUT-OFF MACHINE HAVE BEEN PREPARED.	363.0	0.6	32.3	DEC 82	SEP 82
6 82 7730	MANUFACTURE OF SPLIT RING BREECH SEALS --- JUST FUNDED. NO 301 REQUIRED. ---	65.0				
6 77 7753	NOISE SUPPRESSOR FOR POWDER TYPE RECOIL MECHANISM TESTING MA THE NOISE ATTENUATOR WAS INSTALLED IN AUG 1981. SEVERAL DESIGN DEFICIENCIES WERE REVEALED DURING TESTING. DUE TO CONTRACTOR FINANCIAL DIFFICULTIES IT MAY BE NECESSARY TO COMPLETE THE NOISE ATTENUATOR IN-HOUSE.	385.0	334.9	44.4	FEB 80	MAR 82
6 79 7802	ESTABLISH MACHINE TOOL PERFORMANCE SPECIFICATIONS ALL TESTING HAS BEEN COMPLETED. ENGINEERING GUIDELINES FOR SPECIFICATION OF MACHINE TOOLS AND THE FINAL TECHNICAL REPORT HAVE BEEN DRAFTED.	282.0	267.5	11.8	JUN 81	APR 82
6 79 7807	PROGRAMMED OPTICAL SURFACING EQUIPMENT AND METHODOLOGY (CAM) SPECIAL SOFTWARE FOR CNC SPINDLE CONTROL PREPARED SPINDLE HOUSING AND COULANT ENCLOSURE BOXES INSTALLED.	138.0	118.0	20.0	NOV 80	JUL 82
6 81 7807	PROGRAMMED OPTICAL SURFACING EQUIPMENT/METHODOLOGY THE PHASE II SCOPE OF WORK AND PR COMPLETE.	126.0	111.0	4.1	JUL 83	JUL 83
6 78 7808	LEAK DETECTION TECHNIQUES FOR SMALL SEALED FIRE CON ASSM A PROTOTYPE LEAK DETECTION TEST FIXTURE WAS PARTIALLY COMPLETED DURING FY79. DIFFERENT LEAK DETECTION METHODS WERE STUDIED AND THE ADVANTAGES OF EACH PARTICULAR METHOD IDENTIFIED.	133.2		133.2	APR 79	DEC 81
6 81 7916	APPLICATION OF LOW COST MANDREL MATERIALS TWO 120MM MANDRELS OF .010 INCH TUNGSTEN CARBIDE PLASMA SPRAY COATED ON A VASCO 350 MARGED STEEL WERE ACQUIRED FOR AUTOFRETAGE TESTS.	168.0		52.8	SEP 83	SEP 83

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6 80 7920	CONSERVATION OF CRITICAL MATERIALS FOR GUN TUBES MECHANICAL PROPERTY AND HARDENABILITY DATA FOR VARIOUS HEAT TREATMENTS WERE COLLECTED. EIGHT MODIFIED GUNSTEEL PREFORMS ARE BEING FABRICATED WHICH CHANGE THE CHROMIUM + MOLYBDENUM CONTENTS TO 1% + .5% RESPECTIVELY. DELIVERY IS EXPECTED IN FEBRUARY.	236.0	63.6	67.5	SEP 81	SEP 82
6 80 7925	BORE EVACUATOR BURNING ENGINEERING AND FEASIBILITY STUDIES HAVE BEEN COMPLETED AND AN RFP HAS BEEN INITIATED.	111.0		60.1	MAR 82	SEP 82
6 81 7925	BORE EVACUATOR BURNING PROCUREMENT ACTION FOR PURCHASE OF PROTOTYPE EQUIPMENT HAS BEEN INITIATED.	248.0		7.7	SEP 83	SEP 83
6 80 7926	HOT ISOSTATIC PRESSING OF LARGE DRONANCE COMPONENTS FOUR CONTRACTS AWARDED. BILLETS HAVE BEEN SAMPLED AND EVALUATED. VARIATIONS IN PROPERTIES AND MATERIALS BEING EXAMINED TO DETERMINE CONDITIONS WHICH PRODUCE SPECIFIC MECHANICAL BEHAVIOR.	216.0	28.4	80.0	JAN 82	SEP 82
6 82 7926	HOT ISOSTATIC PRESSING (HIP) OF LARGE COMPONENTS --- JUST FUNDED. NO 301 REQUIRED. ---	30.0				
6 80 7927	GENERATION OF BASE MACHINING SURFACES BID EVALUATION IS THE LAST MILESTONE ACTIVITY FOR THIS PROJECT WITH CONTRACT AWARD + SUBSEQUENT ACTIVITIES BEING FUNDED THROUGH SECOND YEAR FUNDING IN THIS PROGRAM.	86.0		30.6	MAR 81	AUG 82
6 81 7927	GENERATION OF BASE MACHINING SURFACES WORK ON THIS PROGRAM DURING THE SECOND REPORTING PERIOD COVERED THE ACTIVITIES INVOLVED IN THE CONTRACT AWARD CYCLE. THE REQUEST FOR TECHNICAL PROPOSALS HAVE BEEN RECEIVED + ARE IN THE PROCESS OF BEING EVALUATED.	137.0		5.8	SEP 84	SEP 84
6 80 7928	ROBOTIZED BENCHING OPERATIONS AT THIS TIME, THE PROJECT OFFICER IS WAITING TO SEE IF ANY POSITIVE OFFERS WILL BE MADE PRIOR TO THE 2 DEC 81 DEADLINE. ACCORDINGLY, THE FINAL TECHNICAL REPORT WILL NOT BE SUBMITTED UNTIL JUNE 82.	113.0		75.3	AUG 81	JUN 82
6 81 7928	ROBOTIZED BENCHING OPERATIONS (CAM) A WORK PLAN HAS NOT BEEN GENERATED BECAUSE OF NO B10 LETTERS THAT HAVE BEEN RECEIVED IN THE FIRST YEAR EFFORT.	287.0	205.0	12.5	SEP 83	SEP 83
6 81 7940	SYNERGISTIC PLATINGS WITH INFUSED LUBRICANTS A CONTRACT WAS AWARDED TO BAITELLE COLUMBUS LABS TO EVALUATE AND OPTIMIZE A POROUS-NICKEL-PHOSPHOROUS ALLOY COATING PROCESS. ELECTROLESS NICKEL-PHOSPHOROUS COATINGS HAVE BEEN APPLIED IN-HOUSE. PARAMETERS TO OPTIMIZE ETCHING PROCEDURE TO BE EVALUATED.	121.0	55.0	32.7	SEP 82	SEP 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
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PROJ NO.	TITLE + STATUS	AUTHOR- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 77 7943	ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS WORK ON A FACILITIES MASTER PLAN TO THE ROCK ISLAND ARSENAL INCLUDED RENOVATION OF ARMAMENT MANUFACTURING PLANNING. THE WORK WAS COMPLETED BY THE FACILITIES ENGINEER AND A CONTRACT THROUGH THE CORPS OF ENGINEERS. STARTED FISCAL CLOSE OUT OF THIS EFFOR	578.3	247.8	328.1	FEB 78	MAR 82
6 78 7943	ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS WORK ON THIS PROJECT WAS COMPLETED IN DECEMBER 1980. A FINAL AND TECHNICAL REPORT WILL BE SUBMITTED AS SOON AS PROJECT 6777943 IS CLOSED OUT IN MARCH 1982.	441.8	410.4	28.0	JUN 79	MAR 82
6 80 7948	ESTABLISH CUTTING FLUID CONTROL SYSTEM TESTING HAS BEEN COMPLETED. THE FINAL REPORT HAS BEEN COMPLETED AND IS BEING REVIEWED.	158.0	122.0	33.9	SEP 81	FEB 82
6 81 7948	ESTABLISH CUTTING FLUID CONTROL SYSTEM PROCEDURES WERE INITIATED TO GATHER DATA ON 10 DIFFERENT MACHINES RELATIVE TO FLUID CONCENTRATION LEVELS. SAMPLES OF ALL NONFERROUS WORKPIECE MATERIALS USED AT RIA HAVE BEEN SENT TO CONTRACTOR FOR TESTING USING OPTIMAL CUTTING FLUIDS.	164.0	83.6	19.2	JUL 82	JUL 82
6 80 7949	APPLICATION OF GROUP TECHNOLOGY TO RIA MFG (CAM) A CONTRACT TO DEVELOP PART FAMILIES BASED UPON THE MICLASS CODE NUMBER IS BEING NEGOTIATED WITH AN EXPECTED AWARD DATE OF FEB 1982. SOFTWARE TO ASSIST IN MACHINE LAYOUT WAS MADE AVAILABLE. PENN STATE IS WORKING ON GROUP SCHEDULING SOFTWARE.	155.0		39.9	MAY 82	SEP 82
6 79 7963	GROUP TECH CELLULAR MFG FOR FC COMPONENTS ASSEMBLIES SEE PROJECT 6 80 7963. GROUP TECHNOLOGY SOFTWARE (MIGROUP) WAS INSTALLED AND DEBUGGED. THE MIPLAN PROCESSING PLANNING SOFTWARE IS BEING RECODED TO RUN ON COL EQUIP. GROUP TECHNOLOGY ANALYSIS IS BEING CONDUCTED.	188.0	188.0	112.2	JUL 80	JUL 82
6 80 7963	GROUP TECHNOLOGY FOR FIRE CONTROL PARTS AND ASSEMBLIES SEE MMT PROJECT 6 79 7963. BASIC GT CHARACTERISTICS FOR FIRE CONTROL ASSEMBLIES ARE BEING OUTLINED. FEATURES BEING CONSIDERED INCLUDE FUNCTION, SIZE, CONFIGURATION, COMPONENTS, INSPECTION PROCEDURES, INSPECTION EQUIPMENT, ETC.,	303.0	85.0	156.7	DEC 81	SEP 82
6 81 7966	MANUFACTURE OF TRITIUM POWERED RADIO LUMINOUS LAMPS PREPARED SOON FOR MANUFACTURING CONTRACTS. IDENTIFIED LOCATION FOR ANALYZING TRITIUM LAMP INTERNAL ENVIRONMENT.	125.0		7.5	MAR 82	SEP 82
6 80 7985	SMALL ARMS WEAPONS NEW PROCESSES PRODUCTION TECHNOLOGY DIMENSIONAL STABILITY OF GAU-81A BREECHES MACHINES ON NC LATHES WAS EVALUATED. RESULTS SHOWED ACCEPTABLE DIMENSIONAL STABILITY, BUT VARIATIONS WERE SLIGHTLY GREATER THAN CURRENTLY EXPERIENCED.	381.5	282.5	98.6	MAY 81	SEP 81

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
2ND SEMI-ANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 81 7985	SMALL ARMS WEAPONS NEW PROCESS PRODUCTION TECHNOLOGY CONTRACT AWARDED 1 DEC 81 VERSUS THE PLANNED 30 SEP 81, DUE TO PROBLEMS IN NEGOTIATION. ROTARY FORGE PROCESS SHEETS PREPARED FOR ALL EFFECTED CALIBERS AND TIMES ARE BEING ASSIGNED TO EACH PROCESS STEP.	436.0	205.0	71.1	OCT 82	UCT 82
6 81 7990	IMPROVED FABRICATION AND REPAIR OF ANODES THE LEAD PLATING FACILITY IS NEAR COMPLETION. THE PLATING SYSTEM IS READY FOR WATER TEST. THE CONTROL ROOM IS 80% COMPLETE.	100.0		91.0	JUN 82	JUN 82
6 81 8001	RAPID FLOW PLATING OF SMALL CALIBER GUN TUBES CONTRACT HAS BEEN AWARDED TO ESTABLISH PROCESS PARAMETERS TO PLATE .50 CAL MACHINE GUN BARRELS. OPTIMIZATION OF RAPID FLOW PLATING PARAMETERS HAVE BEEN INITIATED.	132.0	98.0	6.5	SEP 82	SEP 82
6 80 8004	CO-DEPOSITION OF SOLID LUBRICANTS DURING ANODIZING EQUIPMENT WAS DESIGNED AND PROCEDURES DEVELOPED FOR OPERATING A LOW TEMPERATURE HARD COAT ANODIZING PROCESS FOR THE CO-DEPOSITION OF LUBRICIOUS PARTICLES DURING HARD COAT ANODIZING OF ALUMINUM. RESULTS AND PROCEDURES WILL BE IN FINAL TECHNICAL REPORT.	121.0		121.0	JAN 81	DEC 81
6 80 8017	POLLUTION ABATEMENT PROGRAM ALL PHASES OF WORK WERE COMPLETED AND A DRAFT OF A TECHNICAL REPORT WAS PREPARED. THE REPORT HAS BEEN REVIEWED AND CORRECTIONS ARE BEING MADE.	171.0		85.0	JAN 81	FEB 82
6 80 8024	HIGH SPEED ABRASIVE BELT GRINDING FOUNDATION REQUIREMENTS AND DRAWING REQUIREMENTS HAVE BEEN CLARIFIED.	324.0	297.6	18.9	SEP 82	SEP 82
6 82 8024	HIGH SPEED ABRASIVE BELT GRINDING --- JUST FUNDED. NO 301 REQUIRED. ---	30.0				
6 79 8025	ELECTRONIC PROFILE READOUT GAGE FOR POWDER CHAMBER CONTROLS THE CONTRACT PREVIOUSLY AWARDED TO APPLIED OPTOMECHANICAL KINETICS WAS AMENDED TO INCORPORATE A MOTOR DRIVEN SENSORS CARRIER IN LIEU OF THE MANUALLY OPERATED HANDWHEEL ORIGINALLY QUOTED.	106.0	74.4	55.4	JUL 80	JUN 82
6 80 8035	COATING TUBE SUPPORT SLEEVES WITH BEARING MATERIALS RESULTS OF ALL TESTS SHOW THAT THE PISTONS HAVE SUPERIOR MECHANICAL STRENGTHS. A WELDING PROCEDURE HAS BEEN PREPARED AND A TECHNICAL REPORT FOR PHASE I HAS BEEN PUBLISHED.	180.0		157.1	MAR 81	MAY 82
6 81 8035	COATING TUBE SUPPORT SLEEVES WITH BEARING MATERIALS INITIALLY, INCOMPLETE BUNDLING OF AL-BRONZE ALONG THE EDGE OF THE LARGE END OF THE PISTON WAS EXPERIENCED. LENGTHENING THE CASTING 1/2 INCH FOR ADDED SUPPORT IS BEING EVALUATED. TEST AND EVALUATION OF PROCESS WILL BE DONE IN EARLY 1982.	200.0	10.9	48.7	JUN 82	JUN 82

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PROJ NO.	TITLE + STATUS	AUTH- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 80 8036	WEAPON AIMING SYSTEM FOR THE 6-DUF SIMULATOR THE TV CAMERA WAS RECEIVED. THE CAMERA WAS RETURNED FOR REPAIR. THE SHOCK MOUNTS WERE ALSO RECEIVED. A SIMULATED CAMERA WAS MOUNTED WITH THE SHOCK MOUNTS TO THE M139 GUN BARREL. SEVERAL ROUNDS WERE FIRED TO MEAS THE ACCELERATION LOADS TRANSMITTED.	126.0	18.8	64.0	SEP 81	JUL 82
6 80 8047	PASS THRU STEADY RESTS FOR TUBE TURNING JOB ORDERS HAVE BEEN WRITTEN AND DRAWINGS ISSUED TO MANUFACTURE VARIETY OF PERIPHERAL SUPPORT HARDWARE AND DEVICES FOR THIS PROJECT.	369.0	262.1	55.5	JUL 83	SEP 83
6 78 8048	IMPROV INSPECTION TECH F/INGUTS + PREFORMS F/RUTARY FURGING THE SYSTEM DESIGN HAS BEEN COMPLETED. FABRICATION OF THE MECHANICAL EQUIP TO TRANSFER THE ULTRASONIC ENERGY HAS ALSO BEEN COMPLETED. THE ULTRASONIC EQUIP WAS ACCEPTED BY BENET WEAPONS LABORATORY 13 NOV 81.	154.0	76.0	67.4	SEP 80	JUN 82
6 80 8051	APPLICATION AND CONTROL OF MACHINE TOOLS (CAM) A CONTRACT HAS BEEN AWARDED TO BATTELLE MEMORIAL INSTITUTE. RECORDS AND DATA HAVE BEEN COLLECTED AND REVIEWED.	185.0	150.6	34.4	AUG 81	JAN 83
6 80 8054	OPTICAL SCRATCH AND DIG STANDARDS FOR FIRE CONTROL SYSTEMS THE CONTRACT TO IMPROVE MANUFACTURING TECHNIQUES AND QUALITY OF SCRATCH AND DIG STANDARDS WAS LET TO DECILG WHO IS CURRENTLY LINING UP MANUFACTURERS.	185.0	70.0	78.5	AUG 84	AUG 84
6 81 8054	IMPROVED MFR OF OPTICAL SCRATCH AND DIG STANDARDS DECILG IS CHECKING FIRMS THAT DO LITHOGRAPHY AND CHEMICAL ETCHING TO SEE IF THEY CAN MAKE GLASS SCRATCH SAMPLES. THEY ARE LOOKING FOR A REPEATABLE, LOW COST METHOD TO REPLACE HAND SCRIBING. LASER SCRIBING MAY NOT HAVE BEEN ECONOMICAL.	266.0	146.1	3.6	AUG 84	AUG 84
6 80 8057	DUAL RIFLING BROACH REMOVAL SYSTEM WORK CONTINUES ON THE MANUFACTURE AND PROCUREMENT OF HARDWARE. A MAJOR PORTION OF THE EFFORT IS NOW BEING CONCENTRATED ON INTERFACING BOTH THE ELECTRICAL AND HYDRAULIC CONTROLS AND THEIR RESPECTIVE SCHEMATIC LAYOUTS.	215.0	2.5	108.1	SEP 82	SEP 82
6 80 8060	IMPROVED MFG PROCESSES FOR FINAL INSPECTION OF CANNON TUBES SMITH, HINCHMAN + BRYLLS ASSOCIATED, INC HAS SUBMITTED DESIGN CONCEPTS. THESE CONCEPTS ARE CURRENTLY BEING EVALUATED.	268.0	25.0	10.8	DEC 81	DEC 82
6 82 8062	RAPID INTERNAL THREADING --- JUST FUNDED. NO 301 REQUIRED. ---	30.0				

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 81 8080	HIGH SPEED FABRICATION OF ASPHERIC OPTICAL SURFACES THE STATEMENT OF WORK FOR THE DECENTERED AXIS TUBULAR TOOL GRINDING PROCESS FOR ASPHERIC OPTICAL SURFACES WILL BE COMPLETED IN FEB 82. AN RFP WILL BE ISSUED AND A CONTRACTOR SELECTED.	204.0	184.0	20.0	JUL 82	JUL 82
6 82 8102	POWDER METALLURGY FORGINGS WEAPONS COMPONENTS --- JUST FUNDED. NO 301 REQUIRED. ---	30.0				
6 81 8105	ESTABLISH ROUGH THREAD BLANKS, 8" M201 BUSHING SPECIFICATION FOR EQUIPMENT HAS BEEN FORWARDED THROUGH PROPER CHANNELS FOR PROCUREMENT ACTION.	292.0		1.1	SEP 83	SEP 83
6 81 8106	LARGE CALIBER POWDER CHAMBER BORING PROCUREMENT OF THE PRECISION POSITIONING SYSTEM IS IN THE FINAL STAGE OF A 2-STEP PROCUREMENT ACTION.	156.2	27.5	20.8	JUN 83	SEP 83
6 82 8106	LARGE CALIBER POWDER CHAMBER BORING --- JUST FUNDED. NO 301 REQUIRED. ---	30.0				
6 80 8107	CREEP FEED CRUSH FERM GRINDING A CONTRACT HAS BEEN AWARDED TO MIDWEST PRECISION SERVICES FOR A CREEP FEED CRUSH FERM GRINDING SYSTEM.	578.7	553.4	19.3	MAY 83	JUN 83
6 81 8107	CREEP FEED CRUSH FERM GRINDING SEQUENCE ROUTING DEVELOPMENT IS 50 PERCENT COMPLETE.	73.0		5.9	JUL 84	JUL 84
6 81 8113	ESTABLISHMENT OF ION PLATING PROCESS FOR ARMAMENT PARTS FOURTEEN WEAPON PARTS OF VARYING DESIGNS AND SIZES WERE FORWARDED TO THE CONTRACTOR FOR COATING APPLICATION. COATED PARTS EVALUATIONS WILL THEN BE PERFORMED. PHYSICAL AND ENVIRONMENTAL TESTS WILL FOLLOW.	140.0	50.0	46.0	SEP 82	SEP 82
6 81 8120	ADAPTIVE CONTROL TECHNOLOGY (CAM) TWO PARTS HAVE BEEN SELECTED FOR PERFORMANCE AND FEASIBILITY TESTING UTILIZING ADAPTIVE CONTROL TECHNOLOGY. THE RESULTS OF THESE TESTS SHOULD INDICATE THE VALUE OF THE TECHNOLOGY RELATIVE TO CANNON COMPONENTS.	60.0		20.0	AUG 82	DEC 82
6 81 8135	IN-PROCESS CONTROL OF MACHINING THE SCOPE OF WORK WAS RELEASED FOR QUOTATIONS. FORTY-ONE SOLICITATIONS WERE MADE. PROPOSALS ARE BEING REVIEWED WITH CONTRACT AWARD PLANNED FOR MARCH 1982.	613.0		24.6	OCT 82	FEB 83
6 81 8136	IMPROVED IMPULSE PROGRAMMERS FOR HYDRAULIC SIMULATORS PRELIMINARY CONCEPTS HAVE BEEN DISCUSSED. REQUIREMENTS FOR A COMPUTER MODEL ARE BEING GENERATED TO AID IN CHOOSING THE BEST OPTION.	80.0			SEP 83	JUN 84

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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 81 8151	PORTABLE ENGRAVING SYSTEM CONTACTS WITH VARIOUS VENDORS HAVE BEEN MADE. ONE PROPOSAL WAS REJECTED DUE TO AN INABILITY TO TRANSPORT THE ENGRAVER FROM TUBE TO TUBE. THE INVESTIGATION OF AUTOMATIC ENGRAVING METHODS WILL CONTINUE.	84.0		7.4	DEC 82	DEC 82
6 82 8151	PORTABLE ENGRAVING SYSTEM --- JUST FUNDED. NA 301 REQUIRED. ---	30.0				
6 81 8152	IMPROVED ANODE STRAIGHTNESS FOR CHROMIUM PLATING THE PRE-AWARD SURVEY HAS BEEN COMPLETED AND THE CONTRACTOR WAS JUDGED CAPABLE. THE AUDIT OF THE COST DATA IS PRESENTLY UNDER CONSIDERATION AND IS EXPECTED TO BE COMPLETED SOON.	280.0		93.0	AUG 73	AUG 83
6 81 8153	INCREASING GUN TUBE HEAT TREATMENT CAPACITY AN EXPERIMENT HAS BEEN SET UP AT THE ROTARY FORGE TO DETERMINE THE REQUIRED COOLING BETWEEN FURGING AND HEAT TREATMENT. A SCRAP 105 MM M68 GUN TUBE IS BEING PREPARED WITH THERMOCOUPLES FOR DETERMINING TEMPERATURE UNIFORMITY WHEN HEATED IN THE FURNACE	325.0	202.0	55.6	MAY 83	SEP 83
6 81 8154	COMPUTER INTEGRATION MFG (CIM), DDNC A FEASIBILITY STUDY AWARDED TO ENERGY RESEARCH AND DEVELOPMENT INTERNATIONAL WAS COMPLETED IN DEC. THIS REPORT PROVIDES ECONOMIC JUSTIFICATION ALONG WITH ALTERNATE EQUIPMENT CONFIGURATIONS. A HIGH LEVEL ONC SYSTEM IS BEING RECOMMENDED.	442.0		3.3	DEC 83	DEC 83
6 81 8165	STANDARDS FOR DIAMOND TURNED OPTICAL PARTS SCOPE OF WORK WAS PREPARED TO ESTABLISH STANDARD MEASUREMENT TECHNIQUES FOR PRECISION MACHINED OPTICAL SURFACES AND ESTABLISH CORRELATION WITH KNOWN STANDARDS FOR OPTICAL SURFACE FINISHES.	189.0		39.4	DEC 82	DEC 82
6 80 8209	PILOT PRODUCTION OF GRADIENT INDEX OPTICS THE UNIV. OF ROCHESTER ORDERED EQUIPMENT FOR PILOT PRODUCTION OF AXIAL GRADIENT INDEX BLANKS USING THE ION DIFFUSION TECHNIQUE IN A MOLTEN SALT. VERIFICATION WILL BE MADE THRU RETROFIT TO AN EXISTING SIGHT.	213.0	110.0	103.0	DEC 83	JAN 84
6 81 8209	PILOT PRODUCTION OF GRADIENT INDEX OPTICS THE CONTRACTOR HAS ORDERED EQUIPMENT FOR PERFORMING MANUFACTURE AND MEASUREMENTS OF GRADIENT INDICES FOR PILOT PRODUCTION OF AXIAL GRADIENT INDEX ELEMENTS.	274.0	264.0	10.0	MAY 83	JAN 84
6 81 8246	IMPROVED GAS CHECK SEAT FINISHING INDUSTRY SURVEY WAS INITIATED TO LOCATE SUPPLIERS INTERESTED IN DEVELOPING THE GAS CHECK SEAT FINISHING EQUIPMENT ENVISIONED BY THIS PROJECT.	60.0		16.4	APR 82	JUN 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 81 8305	INTEGRATED MANUFACTURING SYSTEM (IMS) A TEAM WITH MEMBERS FROM LOCAL ORGANIZATIONS WAS FORMED. MEETINGS HAVE BEEN HELD WITH TEAM MEMBERS. THE SCOPE OF WORK FOR THE PROJECT IS BEING DEVELOPED.	85.0		21.9	JUL 82	JUL 82
6 81 8341	HOLLOW CYLINDER CUT OFF MACHINE INVESTIGATION OF NEW MACHINING PROCESSES CONTINUED. A SERIES OF TEST DISCS WERE CUT FROM THE MUZZLE AND BREECH END OF THE TUBE AND MACHINING PARAMETERS WERE RECORDED.	84.0	22.0	16.1	JUN 82	JUN 82
6 82 8341	HOLLOW CYLINDER CUT OFF MACHINE --- JUST FUNDED. NO 301 REQUIRED. ---	30.0				
6 80 8342	KEYWAY MILLING MACHINE TECHNICAL PROPOSALS HAVE BEEN RECEIVED AND ARE BEING EVALUATED.	332.0		38.1	JAN 82	AUG 83

APPENDICES

APPENDIX I: COMMAND IDENTIFICATION

APPENDIX: ARMY ACTION COMMAND/ACTIVITY IDENTIFICATION

<u>Action Command</u>	<u>Acronym</u>	<u>Command Identifier</u>
Materiel Development & Readiness Command	DARCOM	D
Mobility Equipment R&D Command	MERADCOM	E
Depot Systems Command	DESCOM	G
Electronics R&D Command	ERADCOM	H
Army Materials and Mechanics Research Center	AMMRC	M
Natick R&D Laboratories	NLABS	Q
Test & Evaluation Command	TECOM	O
Aviation R&D Command	AVRADCOM	1
Communications & Electronics Command	CECOM	2
Missile Command	MICOM	3
Tank-Automotive Command	TACOM	4
Armament Materiel Readiness Command (Munitions)	ARRCOM (Ammo)	5
Armament R&D Command (Munitions)	ARRADCOM (Ammo)	8
Armament Materiel Readiness Command (Weapons)	ARRCOM (Wpns)	6
Armament R&D Command (Weapons)	ARRADCOM (Wpns)	9
Troop Support & Aviation Materiel Readiness Command	TSARCOM	7

NOTE: Abbreviation - R&D Research and Development

APPENDIX II: PROJECT SLIPPAGE STUDY

PROJECT SLIPPAGE STUDY

The purpose of this study is to monitor trends in the timeliness of the MMT Project Execution. Figure 1 is a slippage profile for each command and for the program as a whole. An observation of this data shows that there has been very little change in the project slippage distribution, when comparing the current period with the 2nd half CY80. The large number of projects in the "No Data" column is caused by recent funding of FY82 projects for which no status reports or milestone charts were submitted. Overall, the slippage profile tends to be very consistent. The "No Data" column and "0 Mo" column fluctuate depending on the funding of the new fiscal year program. A combination of these two figures has remained consistent from period to period. The other five columns have also consistently remained within a ± 4 percentage point range from reporting period to reporting period.

There are two problems that affect accurate project slippage reporting. One problem is delinquent status reports. If a status report is not submitted for a project, then the slippage will be that which was calculated from the last status report received. During the current reporting period, there were 124 delinquent status reports. This is an increase of 48 from the previous period. This increase affects the accuracy of the slippage profile. This delinquency results in a larger number of active projects because final status reports are not submitted for those delinquent projects that have in actuality been closed out. These "completed" projects then increase in months of slippage which could account for the larger percentage of projects in the "25+ Mo" column. Unfortunately, there are delinquent status reports every period. Thus, the general consistency, though possibly inaccurate, still remains.

Another problem that affects accurate project slippage reporting is the basis on which final status reports are submitted. Some organizations await financial close-out before submitting final status reports. By doing this, several months might be added to the apparent duration of the project. The general policy has been that final status reports should be submitted when the technical work has been physically completed. If outstanding financial action does not hinder project implementation, then the time required for financial close-out is not meant to be added to an indicator which measures engineering achievement. Continued emphasis on using a consistent basis for project close-out, namely technical completion, will provide a more accurate accounting of the technical life of MMT projects.

P R O J E C T S L I P P A G E S T U D Y

COMMAND	NO. ACTIVE PROJECTS	PROJECT SLIPPAGE DISTRIBUTION (PERCENT)						
		NO DATA	0 MO	1-6 MO	7-12 MO	13-18 MO	19-24 MO	25+ MO
DARCOM	6		33	17	.		17	33
MERADCOM	19		16	11	26	16	16	16
DESCOM	3				33		67	
ERADCOM	39	3	18	13	18	15	5	28
AMMRC	4	25	75					
NLABS	5	20	40		20			20
TECOM	3	33	67					
AVRADCOM	70	21	30	14	13	6	3	13
CECOM	9		11	22	44	11		11
MICOM	58	16	22	12	14	9	10	17
TACLM	58	29	21	7	10	16	3	14
ARRADCOM-ARRCOM (AMMO)	166	20	19	7	13	13	10	18
ARRADCOM-ARRCOM (WPNS)	118	38	21	12	9	6	6	8
TSARCOM	3	33	33	33				
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SUMMARY (DARCOM WIDE)	561	22	22	10	13	10	7	15
2ND CY80 SUMMARY	553	25	20	12	11	10	9	12

FIGURE 1 - SLIPPAGE PROFILE

*Figures reflect data on the active program as of 4 Mar 82.

APPENDIX III: USER'S GUIDE

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
STATUS REPORT
2ND SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDE LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 81 6350 2815	CANNON TUBE AUTOMATED CHROME PLATE THICKNESS MEASUREMENT THIS HAS BEEN MODIFIED TO AUTOMATE THE MEASUREMENT CYCLE. TO DATE THE CONTRACTOR HAS FAILED TO DELIVER AN ACCEPTABLE SYSTEM. THIS INABILITY TO PERFORM BY THE CONTRACTOR WILL RESULT IN A DELAY OF THIS PROJECT.	70.0		0.4	OCT 82	OCT 82
M 81 6350 2943	DEPLETED URANIUM KE PENETRATORS ULTRASONIC INSP PROCEDURES THE SCOPE OF WORK WAS COMPLETED. PRODUCTION DU BLANKS CONTAINING INTERNAL DEFECTS AS DETERMINED USING CURRENT TEST METHODS HAVE BEEN SELECTED. THESE BLANKS HAVE FLAWS BELOW, AT, AND ABOVE REJECT LEVEL REPRESENTING 105MM KE RUUNDS.	75.0		2.0	DEC 82	DEC 82
M 81 6350 2944	PROTECTIVE MASK CANISTER ELECTROMAGNETIC INSP PROCEDURES CONTRACT SCOPE OF WORK HAS BEEN PREPARED + FORWARDED TO PROCUREMENT FOR SOLICITATION. AN IN-HOUSE EFFORT TO DETECT TWO TYPES OF DEFECTS OCCURRING IN THE THREADED AREA OF THE CANISTER HAS BEEN UNDERTAKEN. THE INITIAL RESULTS ARE ENCOURAGING.	75.0		6.3	DEC 82	DEC 82
M 81 6350 2945	QA OF COMPUTERIZED INSPECTION EQUIPMENT SOFTWARE A SURVEY OF THE ARADCOM PRODUCT ASSURANCE DIRECTORATES WAS CONDUCTED TO DETERMINE WHICH PROJECTS USE COMPUTER CONTROLLED ACCEPTANCE INSPECTION EQUIP (AIE) AND SPECIAL CONTROLS OR REQ PLACED ON CONTRACTORS TO CONTROL THE SOFTWARE FOR AIE.	125.0		35.0	NOV 82	NOV 82
M 82 6350	MATERIALS TESTING TECHNOLOGY (MTT) --- JUST FUNDED. NL 3D1 REQUIRED. ---	124.0				
M 81 6390	MMT PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER PUBLICATION OF THE MANTECH JOURNAL AND SUPPORT OF THE TANK AUTOMOTIVE MANTECH CONFERENCE.	250.0	199.7		MAR 82	MAR 82

THIS FORM IS USED FOR SUMMARIZING
THE MMT PROGRAM PROJECTS' STATUS.
USER'S GUIDE BELOW EXPLAINS THE
SIGNIFICANCE OF EACH COLUMN HEREIN.

USER'S GUIDE TO SUMMARY PROJECT STATUS REPORT

COLUMN 1. PROJECT NUMBER

A project identified by the first and last four digits which corresponds to the project title for the life of its execution. However, for accounting and reporting purposes, a project is recognized by the totality of its seven-digit numeric or alphanumeric number. Example:

3 75 6241

Project identifying number, which corresponds to the project title and is designated by action command.

Fiscal year of funding - the only two digits that may vary according to funding frequency (7T for FY transition).

Action command (see list in Appendix I).

COLUMN 2. Subtask identifier, if any.

COLUMN 3. PROJECT TITLE

The title descriptive of project effort.

COLUMN 4. An abstract of project status taken from the Project Status report. Whenever possible, technical accomplishments during the reporting period were summarized.

COLUMN 5. AUTHORIZED

The total amount of funds authorized in dollars, to complete the project.

COLUMN 6. CONTRACT VALUES

The portion of authorized funds actually expended or obligated for work performed by private industry.

COLUMN 7. EXPENDED LABOR AND MATERIAL

The portion of authorized funds actually expended in-house, namely within the Government.

COLUMN 8. ORIGINAL PROJECTED COMPLETION DATE

Calendar date clearly given in, or the nearest calendar month and year as could be read from the Milestone Chart of, the very first Project Status Report, RCS DRCMT-301.

COLUMN 9. PRESENT PROJECTED COMPLETION DATE

Calendar date clearly given in, or the nearest calendar month and year as could be read from Milestone Chart of, the latest Project Status Report, RCS DRCMT-301.

APPENDIX IV: ARMY MMT PROGRAM REPRESENTATIVES

ARMY MMT PROGRAM REPRESENTATIVES

HQ, DARCOM

US Army Materiel Development and Readiness Command

ATTN: DRCMT

5001 Eisenhower Avenue

Alexandria, VA 22333

C: 202 274-8284/8298

AV: 284-8284/8298

AVRADCOM

US Army Aviation R&D Command

ATTN: DRDAV-EGX, Mr. Dan Haugan

4300 Goodfellow Blvd.

St. Louis, MO 63120

C: 314 263-1625

AV: 693-1625

CECOM

US Army Communications Electronics Command

ATTN: DRSEL-POD-P-G, Messr Feddeler/Esposito/Resnic

C: 201 535-4926

AV: 995-4926

ATTN: DRSEL-LE-R, Mr. Leon Field

Fort Monmouth, NJ 07703

C: 201 532-4035

AV: 992-4035

ERADCOM

US Army Electronics R&D Command

ATTN: DELET-R, Mr. Joseph Key

Fort Monmouth, NJ 07703

C: 201 544-4258

AV: 995-4258

MICOM

US Army Missile Command

ATTN: DRSMI-RST, Mr. Richard Kotler

Redstone Arsenal, AL 35898

C: 205 876-2065

AV: 746-2065

TACOM

US Army Tank-Automotive Command

ATTN: DRSTA-RCKM, Dr. Jim Chevalier

Warren, MI 48090

C: 313 573-6065/5814

6467

AV: 786-6065/5814/6467

ARRCOM

US Army Armament Materiel Readiness Command

ATTN: DRSAR-IRI-A, Mr. Dennis Dunlap

Rock Island Arsenal

Rock Island, IL 61299

C: 309 794-3666/4398

AV: 793-3666/4398

ARRADCOM

US Army Armament R&D Command

ATTN: DRDAR-PMP-P, Mr. Donald J. Fischer

Dover, NJ 07801

C: 201 328-2708

AV: 880-2708

TSARCOM

US Army Troop Support and Aviation Materiel Readiness Command

ATTN: DRSTS-PLE, Mr. Don G. Doll

4300 Goodfellow Blvd.

St. Louis, MO 63120

C: 314 263-2218

AV: 693-2218

MERADCOM

US Army Mobility Equipment R&D Command

ATTN: DRDME-UE, Mr. R. Goehner

Fort Belvoir, VA 22060

C: 703 664-4221

AV: 354-4221

NLABS

US Army Natick R&D Laboratories

ATTN: DRDNA-EZM, Mr. Frank Civilikas

Natick, MA 01760

C: 617 653-1000, X2793

AV: 955-2349/2351

TECOM

US Army Test & Evaluation Command

ATTN: DRSTE-AD-M, Mr. John Gehrig

Aberdeen Proving Ground, MD 21005

C: 301 278-3677

AV: 283-3677

AMMRC

US Army Materials & Mechanics Research Center

ATTN: DRXMR-PMT, Mr. Raymond Farrow

Watertown, MA 02172

C: 617 923-3523

AV: 955-3523

HDL

Harry Diamond Laboratories

ATTN: DELHD-PO, Mr. Julius Hoke

2800 Powder Mill Road

Adelphi, MD 20783

C: 202 394-1551

AV: 290-1551

RIA

Rock Island Arsenal

ATTN: SARRI-ENM, Mr. J. W. McGarvey

Rock Island, IL 61299

C: 309 794-4627/4584

AV: 793-4627/4584

WVA

Watervliet Arsenal

ATTN: SARWV-PPI, Mr. T. Wright

Watervliet, NY 12189

C: 518 266-5319

AV: 974-5319

MPBMA

US Army Munitions Production Base Modernization Agency

ATTN: SARPM-PBM-DP, Mr. Joseph Taglairino

Dover, NJ 07801

C: 201 328-6708

AV: 880-6708

AMRDL

US Army Applied Technology Laboratory

USARTL (AVRADCOM)

ATTN: SAVDL-EU-TAS

Fort Eustis, VA 23604

C: 804 878-5732

AV: 927-5732

DESCOM

US Army Depot System Command

ATTN: DRSDS-PE, Mr. Jim Shindle

Chambersburg, PA 17201

C: 717 263-6321

AV: 242-6321

IBEA

US Army Industrial Base Engineering Activity
ATTN: DRXIB-MT, Mr. James Carstens
Rock Island, IL 61299

C: 309 794-5113
AV: 793-5113

DCSRDA (PA 1497, Aircraft)
ATTN: DAMA-WSA, LTC Jay B. Bisbey
Room 3B454, The Pentagon
Washington, DC 20310

C: 202 695-1362
AV: 225-1362

DCSRDA (PA 2597, Missiles)
ATTN: DAMA-WSM-A, Mr. John Doyle
Room 3B485, The Pentagon
Washington, DC 20310

C: 202 695-8740
AV: 224-8740

DCSRDA (PA 3297, Weapons; PA 3197, Tracked Combat Vehicles)
ATTN: DAMA-WSW, LTC Raymond Roskowski
Room 3D455, The Pentagon
Washington, DC 20310

C: 202 697-0106
AV: 227-0106

DCSRDA (PA 5297, Communications/Electronics)
ATTN: DAMA-CSC-BU, MAJ Paul Harvey
Room 3D440, The Pentagon
Washington, DC 20310

C: 202 695-1881
AV: 225-1881

DCSRDA (Other Procurement Activities:
PA 5197, Tactical and Support Vehicles)
ATTN: DAMA-CSS-P, LTC L. R. Hawkins
Room 3D416, The Pentagon
Washington, DC 20310

C: 202 694-8720
AV: 224-8720

DCSRDA (Other Procurement Activities:
PA 5397, Other Support)
ATTN: DAMA-CSS-P, LTC P. K. Linscott
Room 3D418, The Pentagon
Washington, DC 20310

C: 202 694-8720
AV: 224-8720

DCSRDA (PA 4950, Ammunition)
ATTN: DAMA-CSM-DA, COL Jack King
Room 3C444, The Pentagon
Washington, DC 20310

C: 202 694-4330
AV: 224-4330

DCSRDA (PA 4950, Ammunition)
ATTN: DAMA-CSM-P, Mr. John Mytryshyn
Room 3C444, The Pentagon
Washington, DC 20310

C: 202 694-4330
AV: 224-4330

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DCSRDA, Attn: DAMA-WSW, LTC Raymond Roskowski
DCSRDA, Attn: DAMA-CSC-BU, MAJ Paul Harvey

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ARRADCOM:

PM, Cannon Artillery Weapons Systems, Attn: DRCPM-CAWS
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Dir, Attn: DRXMR-MI, Mr. G. Darcy, Jr.

CERCOM:

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Cdr, Attn: DRSEL-LE-RI, Mr. Leon Field
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RD&E Technical Documents Ctr, Ft. Monmouth, NJ

DESCOM:

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ERADCOM:

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Cdr, Attn: DRSTE-AD-M, Mr. John Gehrig

TSARCOM:

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Arsenals:

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 Cdr, AFWAL/MLTE, /MLTN, WPAFB (1 cy ea)
 Cdr, AFWAL/MLS, WPAFB
 Cdr, AFLC/MAX, WPAFB
 Cdr, San Antonio Air Logistics Ctr, Kelly AFB, Attn: B. Boisvert, MMEI
 Cdr, Hanscom AFB, Attn: AFGL-SULL, R. Bergmann